PUBLIC HEARING

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

FUELS AND TRANSPORTATION COMMITTEE

In the Matter of: )
)
Evaluation of Biomass- )
to-Ethanol Fuel )
Potential in California )
_____)

1516 NINTH STREET

HEARING ROOM A

SACRAMENTO, CALIFORNIA

FRIDAY, NOVEMBER 19, 1999

9:00 A. M.

Reported by:
Debi Baker
Contract No. 150-99-001

PANEL MEMBERS PRESENT

Michal Moore, Commissioner
Presiding Member

Robert Pernell, Commissioner

Jim Boyd, Ex-Officio Member

Alan Lloyd, Chairman, Air Resources Board

Ellen Townsend-Smith, Advisor

PROJECT TEAM

Pat Perez, Project Manager/Author

Bill Blackburn

Tom MacDonald

Mike McCormack

Val Tiangco

Morris Scharff - SAIC

Stefan Unnasch - ARCADIS, Geraghty and Miller

P R O C E E D I N G S

PRESIDING MEMBER MOORE: If I can ask everyone to take their seats. Thank you very much.

I am Michal Moore. I'm a Commissioner at the California Energy Commission and the Presiding Member of the Fuels and Transportation Committee and we are here to conduct a public hearing on the Evaluation of Biomass-to-Ethanol Fuel Potential in California pursuant to Governor Gray Davis' Executive Order D-5-99.

I'm joined on the dais, today, by my seatmate, Robert Pernell, immediately on my left, his advisor, Ellen Townsend-Smith, on his left; Jim Boyd to my far right, who is the Deputy Secretary for Resources, and we're very pleased that he takes an active involvement in this; and also by the Chairman of the Air Resources Board, Alan Lloyd, on my immediate right. And we will constitute the panel that is hearing this today.

I have some introductory remarks that I'd like to make to put this formally on the record and then I'm going to turn to my colleagues for any introductory remarks that they might like to make.

First I would note that in our continuing quest to make sure that we reach as many people as possible, this hearing is being broadcast live, on the Internet. It's accessible to other actors who can communicate with us as well as listen to our responses, and, hopefully, this will provide a segue for all of our hearings to become more interactive and more useful to the public and other policy makers in the future.

Under the Governor's Executive Order our Commission, the California Energy Commission, was tasked to evaluate the potential for development of a California waste-based or other biomass ethanol industry. We were to evaluate what steps, if any, would be appropriate to foster waste-based or other biomass ethanol development in California, should ethanol be found to be an acceptable substitute for MTBE, by December 31st of this year.

We have engaged in a very expansive process of public involvement, including identifying the key stakeholders, forming a peer review group. We've established a separate web page to consider these items. We released a working draft for peer review and our draft report

in August of this year for public comment.

We have a public staff workshop in September and we believe that all the public comments and workshop additions or contributions that were made in writing or to us electronically have been included as a part of our second draft, which was released in October, which incorporated as well expert witness testimony that we contracted for.

We provided a 30-day comment and review period for each of those reports. We've taken numerous comments by E-Mail, I don't know that they are so numerous as to not count, but certainly we were pleased at the response. And we've maintained our schedule that we set up without any delays, and we're very proud of that. In fact I would have to say all of the attribution and applause for that should go to Pat Perez, who has managed this very very well for us throughout and you'll be hearing from him in just a moment.

The Committee's role has been to approve the staff outline, the schedule and the recommended, we hope, high level of public involvement. We directed the staff to develop the study based on the facts, combined with a high

level of analytical and, we hope, visibly impartial treatment of the data.

The Commissioners provide an impartial observer role for the Commission, with no direct input otherwise, except to act as observer and recipients to date. We trust the staff in their exercise of their role on our behalf and, frankly, are sitting back, as I said, in the role of observer to date.

Our objective today is to take your comments, especially if they may affect our final version that we're going to publish. And we're particularly interested in your comments regarding the appropriate state role in the future, either in corroboration with other states or other entities or acting alone.

So our job today is to be as good a listener as we can and we will take your comments and inculcate them into our final report when it's issued.

I'm going to turn to staff in just a moment, but with that, let me ask Commissioner Pernell if he has any comments that he'd like to make?

COMMITTEE MEMBER PERNELL: Thank you,

Commissioner Moore. I would just welcome everyone and I'll hold my comments until the final presentation.

PRESIDING MEMBER MOORE: Thank you.

Mr. Lloyd, would you like to offer some comments, and welcome to our forum?

DR. LLOYD: Thank you very much, Commissioner Moore and Commissioner Pernell for inviting me to join you on the dais this morning. It's the first time I've been over here and, again, I'm looking forward to continuing the extensive joint work that we do with the Energy Commission with you and your staff, so I'm delighted to be here.

And again, I will stay for as much of the public testimony as I can for this important meeting.

As you know, my senior policy advisor, Katherine Witherspoon has attended most of these meetings and is here today and she's kept me fully apprised of the proceedings on this issue.

Again I'd like to say at the outset, it's very reassuring to see both agencies working together and closely coordinating and generally on the same track. And when we look at this ethanol

report, the extensive help CEC has given us on analyzing market dynamics and trends and the environmental studies going on at the Cal EPA related to the fees out of MTBE and gasoline, it all adds up to an impressive combined body of technical work. And I think it's a real tribute to our teamwork here.

I think it's precisely what Governor Davis intended us to do when he issued Executive Order D-5-99, to give him the best possible information and database upon which to make future policy decisions.

I think it might be appropriate to take a minute to let you know just what's going on at the Air Resources Board and how that affects this particular issue of ethanol. We have concluded that ethanol is going to play a major role in California's gasoline supply after 2002, and perhaps even sooner.

I say that because oxygenates are clearly still required in about 70 percent of the state's gasoline. Unless that changes, and I'm not sure that it will, and certainly it's beyond our control on that, we expect every petroleum refiner in federally regulated areas to use at

least two percent ethanol by weight in the summer and possibly more in the cold winter months.

We have tentatively concluded that there are no adverse environmental impacts, basically no show stoppers that would keep ethanol from being substituted for MTBE in gasoline. On the contrary, there may be many benefits, particularly from global climate change perspectives, but we're still waiting for the Water Board, OEHHA and outside researchers to wrap up those analyses.

The ARB will be considering the ethanol fate and transport study at it's December 9th Board Meeting. I can hardly wait for that.

Then, Cal EPA's Council for Environmental Protection, which consists of all the Board Members, departments and offices, will take it up on January the 18th, which, I think, will be the first public meeting of, in fact, the Cal EPA's Council for Environmental Protection to look at basically the cross media, multi-media issues, which I think is very important, and it's building on one of the lessons we've learned from the MTBE, so, in fact, as we move ahead we don't repeat the same issues again, mistakes there.

Now we can get all the ethanol we need

from imports, clearly, as outlined in your draft report. The California government can consider taking some specific policy and fiscal steps to facilitate in-state ethanol production -- again, we, and I think the Governor intended that.

I don't honestly know what the Governor and Legislature will decide or how much money might be appropriated through tax credits, grants or the subsidies for this purpose. I understand, Commissioner Moore, as an economist, you're clearly not high on tax subsidies. However, we feel that it is an important issue, it needs some help, and I guess the current word is that these market imperfections need to be worked out.

However, I am sure this is the right time to raise those questions and to cost-out one or more of the alternatives for the Governor's and the legislative branch's consideration as we move ahead. And also to see how some of the plans currently in process are actually brought to reality.

I think as a follow up to CEC's final approval of this report, which I understand is scheduled for the Commission's December 15th meeting, I would like to suggest that our staffs

work together on an ethanol development proposal. And I'm envisioning a finished product in the March or April timeframe, which is a fairly rapid turnaround time. But that would enable whatever we come up with to be considered in the May revised process, which I think is appropriate.

And at our Board Meeting yesterday, the Board specifically directed staff to work with CEC and other agencies to look at mechanisms that are actually trying to facilitate and accelerate knowledge on biomass to ethanol. And specifically in that case we're looking also to ethanol issues. Again, I'm sure that the witnesses testifying today will come up with some good ideas and I appreciate the time and I'd like to let you move ahead, Commissioners.

Thank you very much.

PRESIDING MEMBER MOORE: Thank you, Dr. Lloyd, and I accept your recommendation and request on the ethanol development proposal. We'll make our staff available and I think this is yet another example of a much closer working relationship that we'll have with the ARB, which we've started out in the Committee, as we've revamped the Committee structure, and so I accept

the challenge and the opportunity and we'll be there arm in arm with your agency as time goes on.

Jim Boyd, let me turn to you and ask if you have comments on behalf of yourself and the Secretary?

EX OFFICIO MEMBER BOYD: Thank you, Commissioner Moore and Commissioner Pernell and my good friend, Chairman Lloyd. I say welcome to the audience. It's indeed a pleasure for me to be here today. I didn't know I was going to be sitting on the dais with you and I appreciate that opportunity. I think I just sat here several times this week.

This is a unique and long-term personal and professional subject of interest to me. Some people can understand the depth of that comment, who've known me in the past, so it's, indeed, a pleasure for me to be here and to participate in this discussion.

The fate of reformulated gasoline, the solution of the MTBE problem, are of unique concern to all of us. The question of biomass, and biomass, certainly for ethanol, but biomass in general, is a subject of keen interest to me and so I'm very interested in these proceedings and

the ultimate outcome and recommendations that are made.

As some people in the room, I know, are aware of, there is a somewhat informal but growing informality biomass, interagency biomass group that's addressing the whole topic of the issue, biomass, and all its ramifications and potentialities, so this is of keen interest to me, and anything that we can do in this process to underscore that subject and to perhaps highlight the working group and maybe even bring some formal ratification of that working group's agenda is something that I look forward to as a result of this process.

So, thank you for the opportunity and I look forward to what the people have to say here.

PRESIDING MEMBER MOORE: I appreciate your comments, and wearing my other hat as the Chairman of the Renewables Committee, I would note that we're vitally interested in the other side of the biomass industry, the electricity side as well, and intend to pursue that in terms of its potential in that cooperative role as well in the future.

Having said that, Mr. Perez, will you

introduce your staff and give us your presentation?

MR. PEREZ: Thank you very much, Commissioner Moore and good morning, Commissioner Pernell, Dr. Lloyd, Mr. Boyd, and Ellen Townsend-Smith. We're pleased to be here this morning. And with that, I think I'll start off with introductions and have each of the key ethanol team members please identify themselves, beginning down here with our consultant on the left.

MR. UNNASCH: I'm Stefan Unnasch, with ARCADIS, Geraghty and Miller.

MR. TIANGCO: My name is Valentino Tiangco.

MR. McCORMICK: I'm Mike McCormick in the Transportation, Technology and Fuels office.

MR. BLACKBURN: Bill Blackburn with the Transportation, Technology and Fuels Office.

MR. SCHARFF: Mo Scharff, with SAIC.

MR. MacDONALD: Tom MacDonald with the Energy Commission staff.

MR. PEREZ: I'd also like to introduce one other distinguished member of the public, as well as Cal EPA, our Bill Vance, who has the very difficult task of coordinating all the efforts

today. And I'd like to have him please stand. He's right here. He's been extremely helpful.

PRESIDING MEMBER MOORE: Welcome, Mr. Vance, and we hope you're able to attend most of our hearing today.

MR. PEREZ: All right. With that, I'll ask for a dimming of the lights and I'll begin my PowerPoint presentation, and I'd just like to remind our listeners today that are out there on Internet that the PowerPoint presentation that I am about to deliver is on our web page as well as copies of the agenda. And that can be reached at www.energy.ca.glb for our listeners.

What I'd like to do today is to go over six items. One, provide a recap of what has happened since our September 10th, public workshop that we held here at the California Energy Commission.

Secondly, discuss some of the changes we made to the August draft report, as result of input that we had received, both orally and in writing. And third, present the major findings and conclusions of our recently revised report that we released October 22nd.

Next present some of the recommendations

to foster and support biomass-to-ethanol development here in the State of California. And then shortly go over some steps, some of the next action items that we need to move forward on as we wrap up our report for December.

And then finally, and probably most important, obtain some feedback and comments on the draft report, as we prepare the final report for release in early December. So those are the major six items that I'd like to go over today.

Getting back to why are we doing the work, as Commissioner Moore stated, we did receive a Governor's Executive Order on March 25th, calling for the phase-out of MTBE in gasoline by no later than December 31st, 2002. And in response to the growing evidence that MTBE is contaminating California's groundwater and surface waters, we have been directed under Item 11 of that Executive Order to, one, evaluate the potential for development of a California waste-based or other biomass ethanol industry here in California.

And then second, if indeed it does not pose, that is ethanol, any substantial public health or environmental concerns, which we believe

that will not occur, based on the preliminary findings that are coming out in the other studies, that what steps might be appropriate to foster ethanol development here in California.

So those are the two tasks that we were given to respond to and that is what the report has done.

Just for moment I'd like to just summarize briefly what happened in September 10th at our public workshop. We had essentially 40 to 50 people that came into the Energy Commission and delivered their comments on our August draft report.

We received 18 separate presentations at that workshop. I'm not going to go into great depth on the details because the hearing transcripts are available on the website and we have also summarized what took place at that workshop in the appendices of the report, which I believe most of you have. If not, there are additional copies in the back of the room, and that has also been made available on our website, since October 22nd.

What was actually said on September 10th? One, we heard from a variety of parties

that a biomass policy is needed. There was also a need for public funding to help the ethanol industry gain a foothold and there were a number of specific recommendations ranging from loans, low-interest loans to tax credits to support development of ethanol here in California.

We also heard from parties who recommended that we spend a little bit more time on the public benefits and quantifying just what is the value of those public benefits for moving forward with the biomass-to-ethanol industry.

And next, ethanol potential for municipal solid waste and the economics of collocating with municipal refuse facilities was not adequately addressed, and we have addressed that in the recent draft report, both qualitatively and quantitatively through modeling efforts.

Also, the global climate change and the potential role of ethanol needed further discussion, and we have responded by expanding our discussion of global climate change, as well as the greenhouse gas emissions from biomass-to-ethanol and what the potential benefits may be there.

Additional changes we've made to the August report include a combining of the executive summary and introduction. We have expanded the list of key findings, as well as the recommendations, to better capture what was contained in the individual chapters.

We've added new sections, discussing what President Clinton has done with the Bio-based Products Executive Order that came out a day prior to the release of our former draft report. That is now captured in the report.

Also responded to some of the comments that we have received from our peer review group as well as other members of the public on the requirements for siting a biomass-to-ethanol facility in California and what those challenges may be.

And then, of course, we developed a set of steps and recommended courses of action to foster ethanol development in California.

Some other changes to the August report included expanded discussion and clarification regarding the ten percent waste diversion credit, federal and state taxation of ethanol production, global climate change impacts from biomass to

ethanol production, and a discussion of the existing biomass power industry here in California, which we did not sufficiently describe in our previous report, so that area has been expanded. And a lot of that has to do with the fact that some of these plants, at least provide opportunities for collocation with ethanol plants down the road, so we beefed up that discussion.

And also the collocation at municipal recovery facilities. These are again large volume transfer and processing facilities for waste, collocating those facilities with ethanol facilities.

So those are some of the general areas that we focused on between August and the October report.

Getting on to the major findings and conclusions of our investigation, I want to say right up front that MTBE replacement could generate a demand for anywhere from 148 million gallons a year up to 1.1 billion gallons of ethanol annually, so that's the board spectrum or range of ethanol that we feel will be needed here in the coming years as we remove MTBE from gasoline.

What does that actually represent in terms of California's total gasoline supply, or at least the current highway gasoline market? That is roughly one to eight percent of total gasoline supplies out here for highway travel in California.

Ethanol fuel produced from waste and residual materials offers potential for meeting the state's oxygenated gasoline demands, but for the near term or for the MTBE phase-out period over the next couple of years, we believe most of that demand will be met by supplies from the mid-west. The reason being is that the California projects that are in the act of planning and discussion stages will take some time to get constructed.

They are all seeking financing right now and if constructed, they will only generate about 44 million gallons of ethanol by the year 2004. So that's why we see in the near term most of that supply coming from corn-based ethanol from the mid-west.

In terms of the physical quantities of biomass that is out there from agricultural, as well as forestry and municipal solid waste, we see

roughly 51 million tons that is generated annually here in California. That is a physical amount. If you were to convert that all to ethanol you'd be looking at slightly over 3 billion gallons of ethanol.

However, once you apply physical constraints, economic factors and so forth, that quantity is substantially reduced and we'll be getting into that later.

As a renewable fuel, biomass-to-ethanol fuel production offers a variety of potential energy, environmental and economic benefits. As I mentioned earlier, there's a potential to reduce greenhouse gas emissions, as well as improving energy security with an alternative fuel.

There is the potential for reducing open field burning, such as rice straw, which contributes to air quality problems here in California, as well as reducing catastrophic wildfires as a result of forest thinnings and other forest waste that is currently in our national and state forests. And also the diversion of materials to landfills is another potential benefit that could be derived from this industry and not the least of which, depending

upon where these facilities are located, there are obvious economic and new industry benefits that could be derived, particularly in the agricultural areas of our state, as well as the more rural areas.

So those are just some of the general benefits we've looked at.

However, creating a viable in-state ethanol industry to capture these benefits, poses a number of challenges that must be overcome. I think first and foremost is that the cost of producing ethanol remains high, requiring continued government price support to make it a competitive fuel additive.

The federal 54 cent gallon tax credit is available to purchasers and a major driving force that is currently supporting this industry and we firmly believe that if, indeed, that 54 cent credit was not available you would see very little ethanol out there in the market today. So that is a very significant point that we must not lose sight of.

Moving on to additional findings and conclusions, developing a California ethanol industry will also require a state government role

to overcome economic, technical and institutional barriers and uncertainties.

Now, what I mean by technical challenges and uncertainties is the feedstock quality that is going to be going into these facilities. Seasonal availability of feedstocks is an issue. The collection, production, storage and processing of feedstocks are all things that need to be further refined and addressed.

On the economics, as I mentioned earlier, production cost as well as the capital cost, potential enzyme cost for the conversion of biomass-to-ethanol, also pose challenges, as well as competing markets for the products that are coming out of these facilities and the environmental compliance for building facilities, particularly in areas where they're not going to be collocated with an existing biomass power plant. So those are all challenges that will have to be addressed.

On the institutional side we're looking at incentives, permitting requirements, and, as we've heard from many of the parties that have been involved in our workshops, as well as providing written comments, that many of them feel

that it's important and critical to have some sort of a policy as a foundation to derive public investment decisions, or at least participation with the private sector to foster such an industry.

Also, the lack of commercial experience with biomass-to-ethanol conversion in California and elsewhere suggests that the state would be prudent to co-fund the first several production facilities as part of a near term demonstration effort. And really we're recommending this as a starting point to see if recent technological advances in this industry work beyond the pilot or laboratory scale.

As opposed to going out and supporting a full-blown industry that has not yet been demonstrated, we feel that it would be prudent and wise to perhaps participate and co-fund two to five facilities, so we can get some real world experience.

A demonstration would be particularly valuable to gain insight into the actual benefits, as well as drawbacks to siting, building and operating such facilities in California. And it would also give us the opportunity to observe how

the plants perform over an extended period of time, using different feedstocks, while also measuring the outcomes or the output from these facilities to see what the ethanol yields would be as we observe these plants in operation using a variety of different process conversion technologies, as well as feedstocks.

And I might add, in terms of what these facilities cost through our analysis, they range anywhere from $40 to $50 million per facility to over a hundred million dollars. So we're talking about some substantial sums of money, and certainly I'll be getting into some of the recommendations later and at least expand on that.

A few more major findings and conclusions from our analysis include, as I mentioned earlier, developing a clear biomass-to-ethanol state policy to guide and coordinate actions can help reduce many of these challenges and, in my mind, reduce some of the investment risks that exist in developing such an industry.

Supporting activities to encourage the production and use of ethanol as a renewable energy source is very complementary to California's ongoing efforts here to develop

transportation energy alternatives that we're very much involved with here at the California Energy Commission.

Moving on to the next overhead here, as I mentioned at the outset of my presentation, the second directive that we had in the Governor's Executive Order was to evaluate what steps would be necessary or appropriate to foster biomass-to-ethanol development here in California.

Now, with that context we have provided a set of recommendations, or what I would call a menu of representative actions that you as decision-makers may want to consider as we move forward in adopting the final plans in December.

First, we believe that the potential benefits mentioned earlier support the formation of public policies that would encourage biomass-to-ethanol development and that we're recommending that the state take several actions to develop longer term state policy and other strategies. And what we have done is broken these down into four major categories.

And before I go a little bit further, in terms of how we arrived at these and developed these, these were essentially developed through

our interactions with our stakeholders, as well as peer review input, comments that we received both orally and in writing at our September 10th workshop and work that we have done here at the Commission over the last two decades in terms of alcohol fuels research and development work. And so, many different sources of input were provided that led to these recommendations.

So the four major categories are actions that we feel represent a prudent approach to formulating such a policy to guide state investment include policy area; the research, development and demonstration activities; market development and commercialization; and a category that we refer to as further study needs that could possibly be considered after we turn the report over to the Governor in December.

So, I'll now go through each set of recommendations. Beginning first with the policy recommendations.

One, we recommend developing and adopting a biomass transportation fuels energy policy, which is consistent with the Energy Commission goal for the transportation sector.

As part of that, an inter-agency task

force should be convened to establish and implement an integrated California biomass policy in response to several issues that we feel go beyond the traditional scope of energy issues here at the California Energy Commission. We also believe that the policy should consider adopting carbon reduction goals that are consistent with international treaties and what government actions may come out of Washington to at least implement these treaties in the future.

We also feel that the policies should also study, and, if possible, propose adopting fuel diversity goals for California's motor vehicle market.

We're also recommending that we develop, adopt and periodically review a position on the long-term need for the federal alcohol fuels subsidy, the 54 cent subsidy that I referred to earlier, as it would affect the emergence of the biomass-to-ethanol or biomass-to-transportation fuels industry in our state.

Also, consider changing the ten percent waste diversion credit limit that applies to transformation technologies as defined by the Integrated Waste Management Act. And, again, this

is if biomass-to-ethanol technologies were defined as diversion they would be eligible for the full diversion recycling credits, and this is a credit for meeting the 50 percent waste reduction goals that we have here in California. And we believe that will facilitate and make it more attractive to build these facilities, particularly in those areas where they would be candidates for collocating.

On the research, development and demonstration side, we have a series of recommendations we offer, including pursuing joint funding opportunities that support demonstrations of several biomass-to-ethanol projects here in the state. And we believe that it's very important that we look at the financial mechanisms that should be identified and tailored to these individual projects since they will vary and differ significantly, depending upon the location, as well as feedstocks, as well as the size of the facility, whether or not the stand-alone facility is collocated and what they're collocated with.

We also believe that we should consider developing and sharing the cost of a program through a private public partnership, directed at

improving the collection, transportation and processing of feedstocks as well as other research areas.

And finally, in cooperation and jointly financed by the federal government and manufacturers, initiate advanced engine development projects that use biomass transportation fuels here in the state that are really specific to California's need for high efficiency, low carbon and low emission vehicle technologies that we're trying to advance here in California. And I know that the California Air Resources Board is very active in this area.

Moving on to market development and commercialization recommendations, we recommend a study and recommend an investigation of what should be the most appropriate forms of state financial and nonfinancial assistance, as well as other actions to support market development and commercialization activities, should demonstration projects prove that biomass-to-ethanol projects are technically and economically feasible.

Regarding further study needs, we believe that we should develop a method to determine the cost, as well as the public benefits

associated with developing biomass-to-ethanol to the transportation fuels industry here in California.

In terms of where we go from here. One, we would like to incorporate today's public comment, as well as comment from the Committee and our colleagues at Resources and the California Air Resources Board and others, and make revisions to the draft report as necessary. And then release a suggested changes and revisions summary to the October report that we would release via the Energy Commission's website the first week of December. And that would form the basis of discussion for a final adoption and consideration at the December 15th Business Meeting here at the Commission.

And finally, if we can catch the Governor on New Year's Eve, we plan to deliver the report to him.

(Laughter.)

MR. PEREZ: And that would wrap up our work. And with that, I would like to close my formal presentation, but I'd also like to acknowledge the many contributions and assistance and help that staff has received from our peer

review group, that we've had from the outset of this project, and many of them are here today in the audience, so I'd like to have them stand, those who served in the peer review group. We do have a few here.

Kay Martin, and Kent Hoekman from Chevron. Do we have any others? But, I want to thank each of you individually for your contributions because without their help and assistance on this we would not be where we are today.

Commissioner Moore, I'll turn it over to you.

PRESIDING MEMBER MOORE: Thank you, Mr. Perez. We're very pleased that you had that kind of cooperation and frankly it was a tremendous effort by staff. We're very very proud of all of you. And I again commend the Air Resources Board for the help that we've gotten from them, it's been a much needed injection of help and cooperation, overdue, and we're happy to be doing that now into the future.

I'm going to turn now to comments from those parties who would like to address us today, and I understand that we have as a part of the

Governors' Ethanol Coalition a representative from the Governor's Office in Nebraska, is that correct, Mr. Perez.

MR. PEREZ: Yes. And also from the State of Kansas.

PRESIDING MEMBER MOORE: And from the State of Kansas. So, gentlemen, welcome, if you'd introduce yourselves and before you leave, for our scribe, if you'd give her your cards, so that your names are correctly identified for our record.

Good morning.

MR. KRISSEK: Good morning and thank you.

My name is Greg Krissek. I am the Assistant Secretary of the Kansas Department of Agriculture. Currently Governor Bill Graves is the Chair of the Governors' Ethanol Coalition. The Governors' Ethanol Coalition is approximately eight years old. It currently has 23 states and their Governors as members and partnerships with states or provinces from four international partners as well.

We would like to take this opportunity to congratulate the Commission on the draft report. Their staff has worked diligently and

excellently to present you with a very comprehensive package of materials that we think go a long way to our shared goals of looking at the important environmental and economic roles that renewable fuels can play for United States energy resources.

We've had the opportunity to work with Mr. Perez, provide him a lot of information over the past several months, which we hope he has found helpful and we also would like to extend our appreciation to the Commission for allowing him to participate in our summer meeting in Iowa where he was able to present us with the first steps of this draft report.

We have had an opportunity to review the draft report and share it between our member states and our working representatives that come from generally either agriculture departments, energy and natural resource departments and environmental quality departments. We have a real mixture of our working representatives and I think we've been able to provide feedback to the staff that is already reflected, I think, in the draft report and the types of changes that Mr. Perez has identified in his presentation.

We would also like to take an opportunity today -- I think our task is to provide a bit of information about the production of ethanol in our states and the structure of our states' different types of incentive programs.

So, with that, I'm going to introduce Mr. Todd Sneller, who's one of the Nebraska working representatives to the Coalition and he will provide information along those lines and we both will then be able for questions or any other discussion that you might have as far as the Governors' Ethanol Coalition. Our goals, I've left some information that I kind of outlined our operating procedures and the types of issues that we, as public sector officials, become involved with.

So, thank you for this opportunity and I'll turn it over to Todd.

PRESIDING MEMBER MOORE: Good morning.

MR. SNELLER: Good morning, thank you for the invitation.

I, too, want to commend the extensive piece of work that's been completed to this point. It's a very thorough evaluation of many of the options you have before you, and your role as

policymakers now will certainly be an important one in trying to craft a package that meets the public policy objectives you all determine have the highest priority.

I thought it might be instructive to provide a little bit of background about this process in other places. Some years after moving from my birth place in the Napa Valley I landed in Lincoln, Nebraska and for the past 20 years have served as Director of a state agency there that's specifically dedicated to ethanol development. And during that process we've had an opportunity to try to craft a public policy that met a number of objectives that we felt were important in Nebraska in trying to establish an ethanol program.

Early on that process really began with a series of incentives to encourage the use of ethanol, our assumption at the time being if we created a market we would see plants located there to serve the market. For a number of years we had national bragging rights because we had the highest market percentage use of ethanol of any state.

Unfortunately that policy was a bit

flawed in that while we had bragging rights, we didn't have any ethanol plants built there. And in some cases, in fact, friends chided us about our buy in Illinois policy, because we were being served by Illinois ethanol producers in the supply requirements needed in Nebraska.

So in the early 1980s we started taking a look at specifically what we were trying to accomplish in Nebraska and what other states had done to accomplish similar objectives. It became quickly clear to us, that as a public body and representatives of state government, we wanted to accomplish a number of things, but try to reduce the amount of risk that was associated with accomplishing those goals.

And so after reviewing a number of different programs that had been used around the country to stimulate ethanol development, we decided that really we wanted to focus on ethanol production and recruiting ethanol production companies to locate within the State of Nebraska, hoping to thereby generate a number of economic benefits that have been alluded to in the report prepared today.

And I think we were successful in

accomplishing that by doing a number of different things. And one of those was that after first trying to accomplish this objective with an equity investment program, we had $21 million in which we could take literally an equity stake in proposed projects, it quickly became apparent that the companies that were most capable of building these plants really didn't need the money, they needed some other types of reassurances.

So we transformed the equity investment program into a production credit program. And we specifically set this up to be a performance based program. The performance based program accomplishes a number of objectives from a public policy standpoint, and I think it is quite palatable from a state government perspective.

It requires that any entities who qualify for these cash incentives, actually perform a host of different tasks, ultimately the production of ethanol in the case of our program. And so many of the benefits that we'd hoped to accrue through this program, such as jobs creation, grain disappearance, broadened tax base, local markets for grain, those types of things were accomplished before any incentives were

actually paid out. That was viewed as a program that was both effective from the private sector perspective and acceptable from the public's sector perspective.

In addition, we spent a great deal of time talking with those companies who were trying to finance projects, because those in the room who are going through this process at this point, clearly understand the difficulties of financing new technology. And some years ago these ethanol plants were considered a relatively new technology at the time we started to try to attract investment.

What became very clear is that there was a concern about a program offered by state government that might be available for one or two years and then quickly disappear at the very time when a company was trying to start operations of a new plant or trying to start to repay any of the debt that had been accrued during construction.

So we developed a contract program, where a party could sign a contract with the State of Nebraska with the state seal on this contract and thereby have some assurance that the incentives for which they might qualify if they

performed these performance steps required, were going to be available to them. That took the guesswork out of it and it turned out to be one of those approaches that I think satisfied much of the investment criteria that's set forth in the private sector when they're looking at these types of projects.

So the combination of having a performance based incentive with some assurance from state government that by reducing the risk to state government, having this be a performance based program, I think is a combination that's been very effective.

So as we've taken a look at what other states have done since that time, many have adopted a very similar model and I think these production credits over time have proven to be successful.

In the case of Nebraska we went from no production at the 1980 time period to in 1999 we have now seven plants operating and capable of producing about 350 million gallons of ethanol a year from grain products in the state.

One of the other things that I think is intriguing in the report is the concept of

collocation. Obviously there are a number of opportunities for doing that, and one of the projects that's a collaborative effort underway today between the U. S. Department of Energy and a number of our ethanol producers, it's referred to generally as the bridge from corn ethanol-to-biomass. And it becomes clear as you look at how to reduce and mitigate risk and at the same time commercialize these technologies, that oftentimes those first steps can sometimes be most effective when taken in conjunction with existing facilities, where infrastructure exists.

And that is the case of a couple of projects in Nebraska that are being jointly funded by the U. S. Department of Energy and some private parties involved. In the case of two ethanol plants today that are grain based ethanol plants, there is work under way, pre-engineering, pre-economic work to find out exactly what type of additional modifications must be made to an existing rain processing facility to accommodate biomass waste material. Basically front end design changes with still the ongoing fermentation of sugars, simply coming from a different source in the case of a grain based that may also be able

to process biomass.

And this is one of the ways in which, I think, we can address this issue of how do we move forward with technologies that are viewed as risky by the investment sector and yet having a great deal of promise by those of us who are interested in trying to advocate increased use of biomass for liquid transportation fuels.

Finally, I think that, as you go through this process, there are a number of useful examples around the country of how states have gone about encouraging the different public policy objectives that have been outlined today, and as Greg Krissek noted, we all would be happy to spend some time with you as we've been doing up to this point in pointing out examples, trying to put you in touch with folks who have gone through some of these steps in the past and trying to make sure that when you complete this process, you've got a program that will be well suited to the needs of California and to the public policy objectives you identify as your priorities.

I appreciate the opportunity to appear before you today, and again, we'll make ourselves available for any questions you may have.

PRESIDING MEMBER MOORE: I appreciate you coming and frankly it's good to hear that there have been people down, at least part of the trail ahead of us and that there's someone to ask before we stumble.

Thank you for coming. We appreciate it very much.

Parallel products representative.

MR. KOEHLER: Good morning. My name is Neil Koehler, the President of Parallel Products. We are currently California's only active ethanol producer. We convert a variety of waste products from the food and beverage industry into ethanol.

PRESIDING MEMBER MOORE: You're based in?

MR. KOEHLER: Southern California, Rancho Cucamonga, California is where our facility is. We had the opportunity to host some of your staff at our facility a week ago.

PRESIDING MEMBER MOORE: Yes, and we had the advantage of seeing the pictures for the trip, thank you.

MR. KOEHLER: Good. And we're very interested in the biomass side of it as well. It is a natural adjunct to what we do is to move into

the, you know, from what our -- whether waste products are conventionally fermentable, sugar, starch, alcohol bearing waste streams. And we're interested, in that our plan is in the urban areas to move into mixed waste papers and green waste as an extension of our facility, so we're very supportive, very interested, in working with the Energy Commission on developing the biomass-to-ethanol side of the equation.

As I said at the last workshop on this report, I think it's an excellent report. The interagency cooperation that we're seeing very well evidenced today, and, you know, certainly is noted in the report and how there's been a lot of sharing of information is very encouraging.

I think the responsiveness to the input that was given at the last workshop is also very encouraging. There was quite a bit of input and certainly, in the fairly extensive rewriting of the executive summary, that input has clearly been incorporated and as far as, from my perspective, all the key issues are covered and it's obviously in a fairly general and, in terms of a policy recommendation, more of a menu option, but I think that's appropriate now in that there's still a

little more fine tuning to do as policy makers to figure out what are the, you know, one to five best ways to go.

From a general policy standpoint, I think that this whole opportunity here with, you know, clearly it's been the MTBE crisis that's led to this accelerated view and review of ethanol and this opportunity to help resolve the problem. It gives an opportunity to truly reinvigorate the notion of fuel diversity in the State of California. It certainly is one of the California Energy Commission's top mission statements is fuel diversity.

And, unfortunately, in the last ten years, I think we've really lost focus on that goal, and some of it's, you know, well outside of the control of the Energy Commission. I think we can look at the very low oil prices, and it's been very difficult to justify a lot of the fuel diversity programs here when we had such low and seemingly plentiful supplies of oil.

But I think it's lulled us into a false sense of security. And if you look at it in, I think, less than six months, the price of oil has doubled from $13, and it was a low of $11 a year

ago, and now it's -- I think yesterday it actually hit $26 a barrel. If it doubled again, we're at 52. I mean that's only the tip of the iceberg of what can happen and I think it points out how incredibly vulnerable we are to those kinds of price moves.

Given the resources of this state, both raw material and the human resources, I think we have the power to do something about that. And this report certainly is a movement in that direction.

The other thing that I would point out from a general policy standpoint is I think that what we really need in this state, and I believe this whole process and the Executive of the Order of the Governor's is leading towards is an integrated energy, air quality and environmental policy.

And I think it's true of not just environmental policy, you could probably look at across the range of public policy, that as government, both at local, state and federal levels, and frankly in the private sector as well, we've become so segmented in our thinking and our way of approaching problems. And it certainly

can be shown to be the case on the energy and air quality policy of the past years in California. And I think the MTBE crisis, you know, unfortunately is a very good example of that lack of really integrating the environmental energy and air quality policies.

Certainly the hostility that, as in the ethanol industry we have felt in California over the last ten years to the use of our product in California is another example of that, and here is an opportunity to produce ethanol in the state and use it and, frankly, the air quality policies of the past, and I say the past, because I think we're seeing a very significant evolution of those polices, were really frankly very hostile to the use of ethanol in the State of California. Consequently there has been no ethanol used in California and it was an MTBE only market in the oxygenated world.

So how do we get there, how do we move in keeping in view these needs for integrated energy environmental policy and fuel diversity? The long-term stable market for ethanol in the California transportation sector is the key. And I think that certainly anybody that was looking at

building plants, or in the case of ours who have a plant, I think it's certainly the input that has been received pretty loud and clear from all of those that are wanting to attract the private capital necessary to build ethanol facilities in the state is the need for a long-term, and I mean long term, you know, at least a timeframe of ten years, but obviously beyond, but to get the private capital necessary to build the plant, there's got to be security that there is a long-term market. It's the only way to build a vibrant ethanol production industry in the state and secure the private capital.

In my view, the best way to accomplish that, and it is one of the menu options, it wasn't on the short list at the end, but I really feel that the most effective way to accomplish that is to, you know, and this has become the integration of the energy and air quality policy, is a renewable fuel standard in the State of California.

That would give the context for which we could all see that there is a commitment on the part of the state, without putting up a lot of money, because that's in scarce financial

resources from government, if we just set some, you know, followed performance standards for renewables, that five percent, or whatever the number might be of the state's fuel is going to be from renewable resources, I think it's appropriate on the fuel side and the electrical side.

But here we're talking about bio fuels and in the gasoline transportation sector that that would be the single most important thing the State of California could do to encourage the development of the ethanol production industry in the state. And while that may seem to some like a radical idea, when you consider that the Clean Air Act and its oxygen requirement today, if you look at the oxygen requirement in the 70 percent of the gasoline, with MTBE going out and ethanol replacing that, that's a five-percent requirement for renewable fuels in the State of California by way of ethanol.

And many think that the oxygen requirement itself is not the appropriate place for this integrated air quality and energy policy since it's the Clean Air Act dealing with air. Certainly our industry feels that this is a large reason we have the oxygen requirement, was to

bring in Energy policy and the other non-air quality benefits of the use of oxygenates.

But I think in the State of California the best way to make that commitment would be to implement this renewable standard. It would give us the opportunity then to say, well, maybe we don't need an oxygen standard in the Clean Air Act, we have a more specific, a more focused target of renewable standard in the State of California.

That's our commitment, and because there's been so much controversy and just all of the things that have gone on with the debate over the Clean Air Act, I think it might be the opportunity in the road for a transition from an oxygen content requirement to a renewable content requirement. And, frankly, from the public's standpoint, I think renewable standards are a lot easier to understand than oxygen standards. Oxygen standard, I mean, oxygen, that's what we breathe in the air. What do you mean we have an oxygen standard in our gasoline?

It's a very hard thing to explain to people and I think as policymakers it's important to be very specific and focused in what we talk

about.

And I think it's the way to -- it resolves a lot of those issues around the air quality and I think it's, you know, to the extent that global climate change is potentially the largest air quality issue that we have moving forward, that imposing a renewable standard as an energy and environmental policy makes a lot of sense.

And I just, you know, I think it is extremely encouraging to me to see Dr. Lloyd here sitting with you, because, I mean, obviously the State of California is now making the commitment to try to integrate the air quality and energy policy and that is -- it just makes so much sense from a public policy perspective, and I just want to thank Dr. Lloyd for being here, because I just think it's really the sign of the times and, I think, the State of California is turning the corner and trying to move in a new direction in integrating a lot of new policies.

Moving forward, the longer term renewable standard would be immediately available in the gasoline. It provides that, you know, very obvious and immediately accessible market. I

think on the market development side we need to look at the longer term.

I think fuel cells are critical and that's, again, another opportunity for air quality and energy policy integration, and to the extent that the Energy Commission is working on these transportation programs and fuel cells, ethanol is the only liquid renewable fuel currently available, and as a fuel source for fuel cells seems to me to make immense sense. Right now it's not currently. And part of it is the fault of our own industry for not showing up enough at a lot of the forums on fuel cells, but I can say that, as the Market Development Chairman for the Renewable Fuels Association, it's become a big topic. And in our industry, to really put the resources of the ethanol industry towards the development of fuel cells, we would like to join the California Fuel Cell Partnership and really move in that direction. I think that's another opportunity and a longer term market development opportunity for the Energy Commission and the Air Board to be cooperating and working together.

On the financial assistance side, I have been stressing the renewable standard because I

think it's a way to set some very publicly defensible goals without having to spend a lot of state money. But, to the extent that financial assistance is to be considered, and I think there is a role for that, as I stated last time I was here, I would discourage picking winners and losers.

So I'm not sure it is necessary for the Energy Commission to take a direct equity investment in ethanol plants. There is a little bit of technical work that still needs to be done, but in my view these biomass-to-ethanol technologies are ready for commercialization.

There are a number of pilot plants that are being built today to work out some of the kinks. And I think with the broad public policy commitment to the production and use of ethanol in California, that that will be enough to attract the private capital to build these facilities, and I don't see that the Energy Commission or any other state agency taking a direct investment in the first plants is necessarily appropriate because it could be a situation of picking winners and losers.

It was interesting to hear Todd talk

about how Nebraska sort of went from the direct equity to more broad based, as producer payments. That's something the state could consider, low interest loans, loan guarantees. You know, there are other forms of more generally available financial assistance that might make more public policy sense.

And that concludes what I have to say. Thank you for the opportunity to be here today.

PRESIDING MEMBER MOORE: We appreciate your comments, thank you very much.

We have a representative from Colmac Energy, changing hats.

MR. REESE: My name is Phil Reese. I do represent the Colmac Energy Plant, which is the newest, largest biomass urban waste burner in the state.

Today, however, I am speaking as one of several speakers for the California Biomass Energy Alliance. The Biomass Energy Alliance represents 28 of the 29 operating biomass-to-energy plants in California, plus quite a number of the idle plants.

PRESIDING MEMBER MOORE: Phil, how many are idle right now?

MR. REESE: Pardon?

PRESIDING MEMBER MOORE: Has the number of idle plants changed since we had the renewable hearings.

MR. REESE: Yes, it has.

PRESIDING MEMBER MOORE: And what's the number today?

MR. REESE: Commissioner Moore, I'd have to count the numbers on my map, but I'll come back to that in a minute, if you'll let met.

I was very interested to hear about the Governor's Ethanol Conference from the two out-of-state speakers, because the California Biomass Energy Alliance is, in some people's opinion, the driving force behind what's called the USA Biomass Power Producers Alliance, a legitimate legal LLC, representing about 70 biomass plants around the country, biomass-to-energy. When I say biomass I mean biomass to electric energy plants as now exist.

I want to start off by saying this is a very good report. We were amazed at the amount of work that was done and put into this report. And, in particular, I want to express our appreciation for how carefully you all listened in the

workshops and reflected our points of view and our requests. Anything I say should be regarded strictly as carping around the edges and minor constructive comments.

I have a couple of overall points to make. Here the state is setting out to find some mechanism or measure to support an industry that today has no market to speak of. That market may or may not evolve. It employs one or more technologies, none of which are proven on any large commercial scale.

It may have serious competition from ethanol imported from the mid-west. The report says there's only a ten cents a gallon transportation penalty. And it's dependent on a federal tax credit which may or may not be permanent. Now why is the state thinking about doing that?

I think the overall answer is that the environmental and social benefits, which could well result from this industry, are worth it. Your report is replete with descriptions of those benefits, jobs and increased tax revenues. Commercial? In several counties in California our plants are the largest single property taxpayer.

The global climate change benefits. That's CO2 related, reducing the net increase in CO2 atmosphere. Improved forest health, improved air quality by reducing open burning, etcetera, etcetera, you guys know these things.

But then the report says that no quantitative study of these benefits -- no, excuse me, no definitive study of quantifying benefits has yet been conducted. That's on page 1-A. We disagree with that.

We think there have been three studies, one of which you did, one of which you participated in, and one of which we did. Now, the reason I say that is that the benefits, environmental and social, that will accrue from the biomass-to-ethanol industry result from avoiding the costs of the alternative fates of the feedstock, absent the industry.

If you don't burn it in the open field, you avoid the cost to the environment or to California, of that open burning. If you avoid putting it in a landfill, you avoid the cost to society, etcetera. If you avoid leaving it in the forest you avoid the cost of the risk of wildfire. I think you get my point there.

But if you avoid the cost of -- if you avoid putting more CO2 into the atmosphere by burning fossil fuels, you avoid the cost of that. That's the global climate change.

Now, I want to talk about the most recent study, which was released about two weeks by NREL, which the Energy Commission's participation, I believe. That study developed and used a definitive specific methodology for calculating the value of each of these benefits, very largely based on avoiding the costs of the alternative fates. The results of that study, from our industry's perspective, were gratifying. It showed that the avoided costs of the alternate fates, by taking this biomass into the biomass electric plants, were many times the above-market costs of biomass electric energy.

Since our industry avoids burning fossil fuels to generate power and the ethanol industry does today a little bit and could in the future, avoid burning a lot of fossil fuel in the transportation sector, the CO2 benefits would be essentially identical.

Now, we speak of the oxygenates in gasoline, being there to avoid CO. Well, in

California, according to the State standards there's only two places that are nonattainment for CO, Los Angeles County and Mexicali, as of yesterday.

If you look at the national standards, it's a slightly different definition of what's in the nonattainment, it's the South Coast Air Basin, which is two counties and parts of two others. It's the CO2 emission avoidance and fossil fuels and all of the avoidance of the alternative fates that constitute the benefits.

Three studies, we'd be happy to give you copies of them. One of them you guys did, so you must have a copy of that one. All of those studies showed the benefits to the environment and the social benefits far, far exceed the above-market costs of handling all this solid fuel and turning it into some form of energy. So if it's worth an investment to create a biomass to ethanol industry, it certainly should be worth an investment to retain those same benefits on a much larger scale from the existing biomass-to-electric industry. I'll come back to that in a couple of minutes here, because there's an urgency I want to impart to you.

The report, quite correctly states on page Roman VII-15, that, quote, "The feedstock cost is the key consideration." And then the report also assumes that, quote, "In the near and mid-term subsidies for the feedstocks with environmental benefits were assumed to be available. That state is on page VII-9. "In the near and mid-term subsides are assumed to be available."

Now, you all recall when Clinton, the Administration first came in, they had a statement that they used a lot. They kept saying it's the economy, stupid. Well, I have said here, I have said in many other venues and our other representatives have frequently said with regard to our industry that it's the fuel, stupid.

We've been working for years, four years, since the Biomass Alliance was put together to find a way to reduce the cost of our fuel. We have said publicly and we'll say it today, if we receive sufficient subsidy for our fuel, such as the fuel arrived at the gate at zero cost, we will be competitive in a deregulated electric market. We've been working for four years to try to do that.

The basic electric deregulation law here in California, the famous AB 1890, mandates cost shifting of the above market costs of biomass electricity to beneficiaries of those benefits, the benefits of the waste management, clear air, etcetera. To date, no state agency or state entity has taken a single step to cause any reduction in our fuel costs. We are getting nowhere.

So where's the rationale in the report for saying that in the near term and the mid-term it's assumed the subsidies for feedstocks will be available. Maybe we should stop calling our fuel, fuel, and starting calling it feedstock. Would that help?

We're very interested in learning, working with you guys, getting some help from the agencies around here to figure out how to reduce our costs. The AB 1890 mandated a report due to the Legislature several years ago as to what steps had been taken in meeting the cost-shifting mandate of the law.

The report was put together largely by the Integrated Waste Management Board, but it did come out of Cal EPA, and what it said was nothing.

Well, our industry managed last year to get another state law passed that said, Cal EPA will come up with another report due to the Legislature by March 15th, 1999, like six months ago or so, seven months ago, stating what progress had been made and the cost-shifting and creating support for the biomass industry to get rid of all this biomass.

Well, Cal EPA did a report, again, largely authored by the Integrated Waste Management Board. It was due to the Legislature on March 15th, 1999. It's still in the Governor's Office. It's never been released. Cal EPA did it. It's stuck in the Governor's Office. What the report says is nothing has been done and it's replete with suggestions as to what might be done.

I would note that one of the recommendations here was to change the ten percent limitation on transformation of biomass into energy. I would submit that that will do no good at all. And the reason is that, and as far as you're concerned, not meeting the AB 939 fifty percent diversion mandate will result in no penalties whatsoever. And I submit I will now give you proof of that.

Our plants in Riverside County have been operating for almost eight years. We take a thousand tons a day of waste out of Riverside County's waste management system. When we began negotiating with Southern California Edison to sell our contract, which could result in closing the plant, Riverside County had a hissy and they legally intervened at the PUC, stating that the PUC should not approve our contract buy-out with Edison, because it would result in Riverside County not meeting the AB 939 mandates and face them with $91 million a year in fines.

And we asked Riverside County, and we have talked with them extensively, how much they would contribute, in terms of money, to reduce our feedstock costs, now it's already feedstock now, it's not fuel anymore, it's feedstock. They said nothing, because the penalties would not be imposed. So there's no teeth in that law, at least a far as we're concerned. Enough on that point.

Now, the report very correctly concludes that collocating a biorefinery with an existing biomass plant, has a number of economic and environmental benefits, advantages. We agree with

that. We would like to pursue the collocation. I said in the workshop and I'll say here today, I could put an ethanol plant on a biomass site with very very little permitting difficulty. I can guarantee that and that's my responsibility in the company.

However, at the rate we're going, and, Commissioner Moore, I'm back to your question about idle plants, by the time we get to it, there won't be any biomass plants left to collocate ethanol plants with. This is my urgency message.

We've discussed here before the continuing decline of the biomass industry. In the 1992-1994 period, the last two years before electric deregulation was announced, we had about 45 plants operating, consuming something over 8 million tons a year of feedstock.

Today we have 29 plants running, many of those at reduced capacity, consuming less than 5 million tons a year of feedstock. We project by the end of 2002, this is the kind of schedule you're talking about, there'll be less than ten plants still running, consuming less than 2 million tons a year of feedstock. And when that situation is reached there will be no more fuel

supply infrastructure, because the plants that are left will be those associated with the sawmills who don't need transportation.

The point of this is that we suggested in the workshop and we'll repeat it today, that we don't need a biomass-to-ethanol policy. What we need is a biomass policy or a biomass-to-energy policy. Now that seems to have been quite well received by the Energy Commission.

I've heard some statements, and there's a couple of mentions in the report about what the Energy Commission can do is limited by the purview and authority of the Energy Commission. My gosh, we've got the Resources Board, the Air Board, the Energy Commission and Cal EPA in the room, which suggests that you do not limit your biomass work to that which is specifically within the authority of the Energy Commission. Let's get this interagency thing going that Mr. Boyd mentioned when he spoke at the beginning of today's meeting, and do it quickly enough so that some of us are still in business by the time the ethanol thing gets off the ground.

A couple of specific comments. In your policy and program development options, in the

first one, the pro rationale should include some mention in that particular point, that the existing biomass industry would be very useful as a basis or a springboard for the biomass-to-ethanol.

Now the word springboard is actually used in the report, but somewhat later. And I think that we think that that should be right up front in the policy and program recommendations.

On number three, under your policy and program development options, the con states, in the consense, c-o-n, that the state might be obligated to additional financial support. Again, I want to cite those three studies that I mentioned a few minutes ago that went out that the value, using truly conservative assumptions, of the social and environment benefits is far above what any obligation of financial support might be. It's a good investment for California and the agencies had the responsibility for doing that.

At this point, I want to give you some late breaking news. Some of you may be aware that the biomass industry has been attempting to get expansion of the existing federal production tax credit, production tax credit, you've got to run

to earn it, that has been available since 1992 to closed loop biomass plants. And if you don't recognize that term, that means a plant that grows its fuel solely and specifically for use as fuel.

Rice straw wouldn't qualify, if you could burn rice straw, because they take the cash crop off the top. Rice straw would not be grown solely and specifically.

A very meaningful federal production tax credit has been on the books since the Clean Air Act Amendment of 1992 and there has never been a claim against that credit, because there are no closed loop biomass plants, and although the report discusses energy crops in some length, we believe it's going to be a long time, and probably never that that will work.

We spent, as an industry, about three-quarters of a million dollars in Washington this year and yesterday we failed to get the production tax credit. The wind people got theirs. Senator Roth's poultry litter got his. The closed loop biomass tax credit was continued -- boy, that was a good decision, it's going to cost them nothing. Ours was dropped out.

I'd like to credit that to Congressman

Archer, who happens to be owned by the oil and gas industry. And I won't bore you with the oil and gas tax credits.

What I'm going to suggest here, and this is perhaps the grand unveiling of what does the biomass industry do now having failed in Washington. We're going to come back to California, the California part of the industry, and ask for a continuation for the biomass industry of the CEC production tax credit subsidies long enough to keep us around until the biomass-to-ethanol and we can team up.

On your research and development options, number two says, option, a possibility here is to fund the research to reduce the cost of feedstock collection preprocessing and transport. We've been working on that for years, how to reduce the cost of our feedstock at the gate. I told you before if it comes through the gate, processed to our specs, at no cost, because somewhere tipping fees or something else paid for all of the transport collection and processing, we'll compete with other generators in a deregulated electric environment.

We've had no success and we don't

understand the con statement under this number two option. It says there that the federal government is already applying significant resources in this area and that California does not need to pursue it's own course, because research and progress has broad applicability. We couldn't find any explanation of this in the report, but we'd sure like to know what federal research is going to reduce the cost of our fuel collection processing and transport.

Recommendation number 4, says development of educational program to heighten public awareness of the environmental benefits. Our opinion is that the funding in this area may be ill spent. Look at how much money you've spent on educating the public about the benefits of green energy and look at the success of that.

You're talking about public good here, an environmental good, a social good, a variety of public goods. We don't think public goods are paid for by individuals, citizens, members of the public. Public good, if it's truly a public good, is the responsibility of government to make it happen. And I think you're going down that path, but trying -- we think spending any significant

sum of money trying to educate the citizens as to how great ethanol is going to be poorly spent.

Under market development and commercialization, you have a number of possible policies here. And we're not really going to address any of them specifically, but please don't underestimate the difficulty of financing projects like this. You're talking about low-cost loans, equity investments, tax credits. There are a couple of people in the room here who know about the difficulty of financing projects.

In our business in order to finance our plants, which had the linchpins of the standard offer electric contracts. We had 30-year contracts, guarantying the sale of our product. The financing organizations required us to create the feedstock supply industry. We used to call it the fuel supply industry. We had to have long-term contracts at fixed prices, such that the bankers were comfortable that we could have the raw material.

Maybe the ethanol people will get long-term contracts at good prices to sell their ethanol as a replacement for MTBE. They might be merchant plants. Don't underestimate the

financing difficulty.

The further study options as an area. Number two, suggests the study of the sustainability of California's waste biomass resources. We suggest that our industry already has a lot of information and we want to offer it.

The agencies are probably pretty good at saying what is out there, as Pat mentioned earlier, but there are serious constraints as to what is recoverable, because we've been working in that field. It may be that only very small percentages are recoverable at any economically sensible level. So, as long as we're around we'll help you with that one.

On the other hand we question the statement in there that says the private sector can get the information it needs from specific agencies. I tell you the real role is really frequently different from what an agency thinks, and if you want some examples, I spent a day doing it.

I'll just make one. You've got your map in there labeled 1999, Operational Biomass Plants, not even close. Here's the list. On the map, I just took a quick glance at it. There are at

least four labeled operational, which aren't. Those are the four -- no, three of those are fairly recent idle plants.

That list has got 62 plants on it, 29 are operating. The difference between the two have either been disassembled or are idle. There's probably a dozen that are idle.

I'll make the offer again. Anything that you think we may have, call us. Val called me a couple of weeks ago and asked for our -- the result of a lot of work we did on calculating greenhouse gas benefits. He had it that afternoon. We think this is important enough and a good enough idea that the existing industry wants to help and do anything we can, but we have to stay around and in business long enough to do it.

Now, I'm skipping a couple here, because they're fairly minor. But, in your last category you have some recommendations and it starts off with saying we based our recommendations on the following list of questions, and then it lists about six or seven.

I would suggest a couple of others be posed and then reviewed to see if there's any

additional recommendations.

Now, I'm coming to my urgency thing here. Why don't you just write down what you already know as to what specifically must occur before you have a permanent and sustainable biomass-to-ethanol industry, market development, cost competitive product, commercially proven process, etcetera, etcetera. And then ask yourself what's the likelihood and the schedule that these things will occur absent state intervention.

And if you take a good cold hard look at it and say they'll happen, but it'll take five years, but if we get into it we can do it in four years and 11 months, it's probably not worth doing. I'd like you to get in it and say we want to make this happen in two years.

Our concern is the time required to develop a quote, "broad state policy" and that that time will exceed the remaining life of the existing industry. If the existing industry goes away within the next couple of years, I think the development of an ethanol industry will be severely compromised. If we have to recreate the feedstock, if we have to go through the entire

siting process, perhaps with great difficulty, in the cases where we don't collocate, and I guess our biggest concern is that we will have gone out of business.

PRESIDING MEMBER MOORE: Thank you, Phil, we appreciate your comments. And before I turn to the next speaker, Dr. Lloyd has a comment that he'd like to make.

DR. LLOYD: Yeah, I'd just like to thank Mr. Reese and the Association for, again, the letter sent to look for continued help in continuing those plants on there. And I think, as you know, the Governor's staff, Legislature, CEC and others are looking at that very intently. And I also want to take this opportunity to appreciate the work that your industry does to our benefit to prevent actually some of the emissions getting into the air and we want to appreciate that.

MR. REESE: Good, keep us around, we'll keep it up.

(Laughter.)

PRESIDING MEMBER MOORE: Thank you. Do we have a representative from Wheelabrator?

MR. CARLSON: Good morning. Thank you, Commissioner Moore. I'm Bill Carlson from

Wheelabrator Environmental Systems. We are the owners of three biomass plants in California, fortunately all operating this morning. Again, for how long is to be determined. We're also operating a total of five biomass plants nationwide.

Like Phil, we're a Member of the California Biomass Energy Alliance and I also am the Chairman of the USA Biomass Power Producers Alliance that Phil referred to.

This morning I come to you as a just released prisoner of war from the battle to try to expand the definition of biomass and the expiring federal tax credit. Which, as Phil indicated, was concluded unsuccessfully for our industry, despite the reasonably active support of 24 U.S. Senators. Even that amount of fire power could not overcome, as Phil indicated, Representative Bill Archer from Texas.

And in a week or two we're going to circle back with each other and try to determine whether or not there's enough left to the industry or will be in next year's Congress to try to enter this fight again. We don't know what the result of that survey will be, but it's unlikely that we

can mount the type of effort -- this was kind of a last ditch effort that we put out and we received a lot of support, a lot of sympathy for our position, a lot of recognition, as Dr. Lloyd just said, for the benefits that we do bring to the table, but at the end of the day it did not result in changing the definition of closed loop biomass to include the types of things that we do.

And, by the way, the two California Senators both were very helpful in that fight. But at the end of the day none of the 24 were willing to lay down on the tracks today, and, under the rules of the Senate, basically hold up the last of the appropriation bills until they included provision. None of them were quite that dedicated to the cause.

I'd like to comment this morning on the policy issues within California facing the biomass-to-ethanol industry and contrast those for a moment, if I could, with our industry, and then I would also give you a few specific items that bear on project economics that I will comment on.

First, let me profile our industry for you. It's been done, to a certain degree by Phil, but I'll just run through it quickly again. Our

infrastructure is already in the ground. In actuality our costs are sunk, as they in the financial business, and you can use that term both figuratively and literally this morning.

We have a known market for all of our product. The problem is that the product is just not valuable enough today. Our fuel supply infrastructure is in place, supplying fuels with costs that range from very low to very high. The problem is that biomass fuel supply is somewhat inelastic, quickly ratcheting up to high embedded cost fuels with relatively little change in demand.

Now, to contrast that with the biomass-to-ethanol industry. There is no infrastructure existing in California and that infrastructure must be added at a time of great market uncertainty. The market for your product is not currently large and can only be captured today if you sell at or below the cost of current producers. This can, of course, change by government edict, as it could for our product, electricity. And third, you would utilize our fuel supply infrastructure in large part, potentially increasing the cost of fuels above

current levels.

So the biomass-to-ethanol industry is starting much further back on the curve than where we are today and needs to avoid some of the mistakes that we have made and needs, if possible, to avoid direct competition for their fuel supply. The lignin byproduct that's mentioned throughout the report, at collocated facilities may well avoid the latter fuel supply competition becoming a key concern.

If the state is to develop policy positions to support development of a viable biomass-to-ethanol industry it should do so by focusing on lowering ethanol production costs through lowering raw material costs. Proposals in the CEC study for grants, loan guarantees or low-interest loans, will see that the plants get built all right, but will not guarantee that they run. Better to create a production cost or market situation that shows that a plant can be successful, because if you can do that, private financing will then be available for someone wishing to tap that market.

In other words, one of the mistakes that was made in our industry was there were numerous

incentives at the time to build the plants that we've never been able to put in place for an extended period, other than the transitional funds that you provide under AB 1890. The production cost model that was referred to by the gentleman from Nebraska, that is the way in which you can assure that these assets will then run in the marketplace.

In other words, you have two options, you can lower the cost of production to the point where they're competitive in the current market or you can raise the value of the product through some action of government or through consumer preference or some combination of the two. But just to build the plant, just to say that we built another plant in California is not going to be very satisfying for the long term.

The prudent policy route is actually laid on page Roman Numeral I-1 of the study which advocates a biomass policy for the state, encouraging all biomass waste be utilized for energy rather than burned or land filled. This policy happens to rest on solid economic and environmental ground and numerous studies have documented the economic and environmental benefits

of biomass utilization, as was referred to by other speakers.

We do not, at this point, need to choose whether the biomass goes to ethanol or power, just that it be utilized. That represents a legitimate state policy position. The proposed policy advocates an interagency task force approach this issue, and we would certainly agreement with that. The Task Force should not, however, advocate another study, because we have plenty of studies to justify positive action by the state on biomass.

Once the policy is in place the Task Force should look at implementing steps that ensure success of the policy. The steps should take the form of lowering the cost of raw material to make the resulting product more competitive or in creating a premium market that raises the value of products.

The environmental and economic benefits of biomass conversion to energy are captured by running the plants at high capacity factors, not as I've said earlier, just by having constructed them someone in California.

Raw material costs can be lowered by

giving tax credits to the biomass producer who, quote, "does the right thing" and delivers the material to an energy conversion facility. Raw material costs can also be lowered by giving full AB939 diversion credits to biomass, by eliminating its use as alternative daily cover at landfills or by subsidizing the thinning of overstocked forests. Once the state starts down a path to lower raw material costs to biomass energy facilities, whether they be ethanol or power, it will find numerous ways within its purview to do so.

Conversely, the value of the product can be increased through customer preference, state purchase programs, elimination of MTBE, gasoline tax exemptions or a renewable or biomass portfolio standard for electric suppliers. In the above examples, I have sought to suggest policies that would equally help biomass ethanol or biomass power. That is the correct policy route, as the ultimate goal for California is to displace fossil fuel use with an indigenous renewable resource and eliminate the environmental consequences of current biomass disposal methods, something that both technologies do.

Turning to the body of the report, I would suggest the following changes. First, early generations of ethanol plants should focus on biomass wastes and not on energy crops. There is plenty of unused waste that has a much lower cost structure than energy crops.

The raw material cost profiles in the study show only a modest raw material cost rise with large increase in plant size. It is our experience with biomass waste that the fuel supply is fairly inelastic and costs rise quickly with volume.

More information needs to be supplied on the characteristics of the lignin byproduct. It is assumed the lignin has value as a fuel for biomass power, but that cannot be determined until we know heating value, moisture content, pH, ash content, etcetera.

While cost figures for agricultural and forestry waste appear reasonable, the moisture contents appear low. A 40 to 45 percent moisture content is more typical for these fuels than the 30 percent shown. This change will impact transportation costs.

Overall, the study is a very good

starting point for an interagency task force. We would urge the task force to go forward with a broad state biomass policy mandating use rather than disposal. This could be followed closely by implementing steps to both lower raw material costs and raise product values. We look forward to working with you on this project so important to California's energy future. Do not let the most valuable product of this undertaking be the pile of unused copies of this study that may find their way into the wastepaper fuel at one of our plants. Thank you.

(Laughter.)

PRESIDING MEMBER MOORE: Thank you, Mr. Carlson, we appreciate your remarks.

Do we have a representative from Arkenol here?

Good morning.

MS. SUMAIT: Good morning. I'm Necy Sumait and I'm with Arkenol. It's been a very busy year. A lot of work has been done by this agency and several others. It's a very comprehensive report. Certainly nothing less than what I'd expect from the Energy Commission, having worked with your staff on various other

proceedings that you've handled. It's a very comprehensive report, very thorough and, you know, publicly reviewed, so I think that's a great place to start.

I just want to discuss a few things in some of the policy recommendations. There appear to be some arguments in terms of a biomass against the biomass-to-ethanol fuel strategy and some question as to whether or not ethanol is the product for producing the biomass. We wanted to stress that ethanol is clearly the largest SNG for biomass in chemical production. So certainly the biomass-to-ethanol industry is one that can get rid of a lot of the biomass waste.

If you were looking for a more integrated policy we suggest something like the biomass utilization program policy through Cal EPA of which the Energy Commission will take a big chunk of that through a biofuels policy program like your staff has suggested.

With regards to the carbon reduction, well, certainly, biomass-to-ethanol, you've seen all the benefits and, well, there's lots of reports to provide information on those actual reduction levels. It should be part of this

state's climate change policies, which I view the Energy Commission is also a part of. And so biofuels can also play a role in that climate change policy development.

I don't think fuel diversity, having fuel diversity goals is an option. I think it's a necessity, particularly because the options exist and we need to decrease a reliance on petroleum products.

One of the policy recommendations is to consider the changing of the ten percent waste diversion credit. That appears to be a fairly easy one. It's a nonfinancial support, yet it's one that can stimulate the market. We need to get the Integrated Waste Management Board, I don't know how involved they have been with the report, but certainly they are one agency that, I think, needs to be aware that there are other ways to get rid of MSW, even though we do so much composting.

So biomass to -- MSW-to-ethanol provides a large-scale solution to our landfill issues.

With regards to R and D, certainly research should continue. I suggest that polices focus more on a demonstration and certainly there are technologies and projects that are ready to

get off the ground. And so the technology is there, so any support should focus on the demonstration and unfortunately that's also where there's the largest chunks of money that would be required.

And lastly, I wanted to just echo what Neil had said earlier about market development. There is a need to have a long-term market for ethanol to ensure that the private sector -- and we understand that the private sector needs to bear the burden of commercialization. That is clear. However, if there is a long-term market out there, so that these investors can be assured that there will be product -- a market for the product produced would be an important one for project financing.

A renewable fuels policy I think is an excellent way to have this program take place. The Energy Commission can take experience from its power and biomass programs that are already in place to take from there those that could be used to create a biomass-to-ethanol policy program. It's very timely that we end the millennium with all this information that I think is very refreshing. We've opened a door for ethanol in

California. I just hope that we enter the next millennium armed with the same momentum and more, a strong budget and the continued commitment so that we can put into action all the recommendations that you have worked so diligently and so hard to put together. Thank you.

PRESIDING MEMBER MOORE: Thank you very much. Do we have a representative from Ogden Power. And by the way, I'd note that we've all received a copy of the Ogden Power letter.

MR. TROTT: Good morning. My name is Chris Trott and I am the Director of Wood Fuel Supply for Ogden Power here in California. We have four -- we're now operating biomass-to-biopower facilities I'll call them. That would be the new term just like Mr. Reese called fuel feedstock. I'd like to call our powerplants biopower plants, because that's the new term.

Ogden is very supportive for the development of a biomass-to-ethanol policy here in California. In fact, as you may or may not know, we are involved in studies with the Department of Energy and the Energy Commission to collocate two biomass-to-ethanol facilities at two of our biopower facilities in California right now. And

we feel that it makes good sense, real good sense to produce renewable energy from waste biomass that traditionally has been either open burned in a controlled or uncontrolled manner as in the case of wildfires here in California or landfilled.

And we feel that the time -- traditionally these materials, the biomass waste materials in California, the traditional disposal methods are either burning or landfilling and together these produce cumulative impacts that are no longer acceptable because of the need to improve air quality in our state and to protect human health and the environment.

And most of my comments that I was going to say have already been said by the two previous speakers from the California Biomass Energy Alliance of which we are also a member, but I just want to reiterate two things that are very important to us.

Number one, we favor adoption of a statewide comprehensive biomass policy that would address the environmental problems created by this biomass disposal across the state. Such a policy should develop new markets for this biomass, such as the ethanol that you're considering here in

this report, and also support existing markets for this biomass waste, because the problem is so huge that just a focused biomass-to-ethanol policy will just be a drop in the bucket at addressing the air quality problems that we're faced with today in the future.

Even a biomass-to-electricity policy, a focused biomass-to-electricity policy would not take care of the problem. It's much larger than that and I think that through an interagency task force, as several speakers have encouraged, that you'll be able to see it will be evident to everyone that it is a huge problem.

Secondly and lastly, we feel that a healthy biopower industry is key to a successful development of a biomass-to-ethanol industry and the clear synergies are there. They've been discussed before, but I will reiterate what the two previous speakers from the Biomass Energy Alliance said. We are very concerned about the long-term viability of our four biopower plants here in California.

We are currently evaluating whether we should continue ongoing operations at all four of those plants, because of the forward looking

economics after the subsidy that we are getting through the SB 90 funds ends in the year 2001 and, frankly, once that ends it just doesn't make sense to stay in business anymore. So I encourage you to look at the whole problem of biomass disposal in California and include a biomass-to-ethanol policy as an integral part of that policy. Thank you.

PRESIDING MEMBER MOORE: Thank you very much. We appreciate those remarks.

Do we have a representative from BC International?

MR. HINMAN: Good morning, Mr. Chairman, Mr. Pernell, Ms. Smith, Dr. Lloyd, Mr. Boyd. Thank you for having the hearing and allowing these people to make comment on the report. My name is Norm Hinman. I'm Director of Business Development for BC International. We're a company that utilizes new technologies to manufacture ethanol from biomass waste. Previously I worked for 11 years with the National Renewable Energy Laboratory managing research and development as well as biofuels programs.

BCI is currently completing the financing to construct a 20-million gallon a year

commercial biomass plant in Jennings, Louisiana, and this plant will use sugar can residue as a feedstock. We have also signed a letter of intent with the City of Gridley here in California to develop a second facility that will use rice straw as well as wood waste to produce feedstock. And, in addition, we are executing plans to develop a facility in Chester, California in conjunction with Collins Pine Company that will use woodwaste to produce ethanol.

I'm here today to comment on recommendations for fostering a biomass-to-ethanol industry in California as outlined in the draft California Energy Commission report. My testimony also reflects comments that we made at your September 10th hearing. I have submitted these comments. My comments today will be given to Pat Perez for the record.

I'd like to thank the Commission and Pat and his gang for the tremendous job they've done in responding to the Governor's directive to evaluate the potential for biomass-to-ethanol fuel industry in California. In addition to the recommendations outlined in the draft report there are other specific policy measures which will help

secure the financing required to develop a sustainable biomass-to-ethanol industry. These measures would signify a dedicated investment in the economic and environmental well being of California.

I urge the Commission to consider the two following recommendations. Policies that ensure a ten-year market for biomass ethanol in the State of California. And number two, policies that make low-interest rate loans available for biomass-to-ethanol facilities.

The draft Commission report recommends that California continue to study state financial incentives and other measures to support the development of this industry. A number of pilot programs have already demonstrated the commercial application of biomass-to-ethanol technology, including pilot operations at our Jennings facility in Louisiana. In conjunction with the planning and development of biomass-to-ethanol facilities, I urge the Commission to examine the following policy concepts and resulting benefits that these policies might bring.

First of all, policies should be implemented that would ensure a market for biomass

to ethanol projects during the course of the financing period or for ten years from operational start date. Such policies would help attract private investment capital. The ways to accomplish this would include the following.

California might require state-owned vehicles to use ethanol or gasoline containing ethanol. Secondly, California might establish a Renewable Fuel Standard that would require all gasoline suppliers to include a minimum percentage of ethanol or some other renewable fuel in their total annual fuel sales.

Thirdly, California might consider establishing a greenhouse gas standard for fuels. Fourthly, California might consider purchasing an insurance policy to ensure the market. Another option is California might ensure the market by acting as a broker. For example, by purchasing and reselling ethanol outside of the California if in-state demand was insufficient.

With regard to low-interest loans in the range of three to four percent, 15-year loans, these low-interest loans by the state would assure timely closing on the financing for the initial biomass-to-ethanol projects in California. This

type of loan would encourage developers to site biomass facilities in California as well as help them secure additional financing from private institutions.

Low-interest loans would also be used by biomass ethanol developers to pay farmers and foresters for their agricultural timber and other biomass waste. Low-interest loans might be made available through California's Pollution Control Finance authority. Alternatively, loan guarantees might be worth exploring. If biomass-to-ethanol plants prove successful, as it seems likely, the direct cost to taxpayers for loan guarantees would be zero, and the indirect benefits to the taxpayers would be significant.

Right now, BC International has two projects in California in the development stage. With state support for a guaranteed 10-year market for biomass-to-ethanol and the availability of low-interest loans, we believe that these and other of those projects will provide the foundation for a thriving and competitive biomass-to-ethanol industry in California.

Now, there are several real world examples and academic research suggests the

benefits of government loans, incentives and development funds for ethanol producers greatly outweigh the costs. For example, Minnesota offers producer incentives, a loan program and a development fund. The state estimates that ethanol contributes $350 million in net annual benefit above the cost of the ethanol program.

In addition, in a 1997 study prepared for the Midwestern Governors' Conference, it was shown that the ethanol industry supports almost 200,000 jobs per year, increases federal revenues by over $3.5 billion each year, improves by the trade deficit by over $2 billion and adds over $450 million in state tax receipts annually.

In summary, for every one dollar spent to support ethanol more than $6.50 flows back into the economy as government revenue.

As detailed in the draft Commission report, abundant biomass resources and a potentially large local market for ethanol provide California with the opportunity to establish itself as a leader in the biomass-to-ethanol industry. The Commission did a superb job of highlighting the widespread public and environmental benefits of biomass-to-ethanol,

noting its ability to reduce greenhouse gas emissions, provide a sustainable domestic fuel supply for California, and help solve California's solid waste disposal problems.

In addition to these benefits, I'd also like to add that development of a biomass ethanol industry in California would extend the state's fuel supply, providing a buffer against the possibility of future price spikes. Moreover, if enough biomass ethanol production capacity is developed to replace MTBE production, 6900 to 9800 permanent jobs, as well as 7100 to 9300 indirect jobs would be created in the near future. These jobs would have a total combined payroll of more than $360 million based on USDA figures and factors.

State support for a ten-year market and low-interest loans for biomass-to-ethanol would benefit everyone along the supply chain, from the local farmer or fire prevention department to the biomass-to-ethanol producer, all the way to the citizens who will breathe clean air and realize improved energy security for their children and grandchildren.

Ultimately all Californians would gain

from the biomass-to-ethanol industry's contribution to economic growth and the environment. State policies to encourage biomass-to-ethanol could eventually be retired as technology advancements associated with a robust and competitive industry would drive production costs down.

BCI looks forward to working with the Commission and the other energy industry stakeholders over the next few months to develop and refine concepts to support a biomass-to-ethanol industry for Governor Davis' consideration. With the state's support, we firmly believe that a local, sustainable and economic solution to California's fuel needs is within reach. Thank you for your continued guidance and thank you for your support.

PRESIDING MEMBER MOORE: Thank you very much and we, of course, wish you very well on the inception of your new plants.

With that, let me ask for a representative of the Alliance of Automobile Manufacturers.

Can I ask for a short break actually for our stenographer. So, with that, five minutes.

We're going to reconvene here at 11:15.

(Thereupon a short recess was taken.)

PRESIDING MEMBER MOORE: Welcome back. We've had a couple of technical difficulties with our recording system. I may have to stop the hearing again briefly if we can't get a continuous signal through the microphones, but I'll let you know if that's going to occur.

The procedure from now on, we have a representative from Food and Agriculture who would like to talk to us. I'm going to then open it up to some members of the public who have indicated they would like to make some short remarks about the report. And at the conclusion of that I'm going to open it up to the dais for questions.

Before I do that, though, Pat Perez has a sign-up sheet and he's offering a dollar for everyone who --

(Laughter.)

PRESIDING MEMBER MOORE: -- he'd like everyone to sign up, so would we. We'd like to know where to be able to reach you. So, please do us the courtesy of signing up and giving us your E-Mail address and bank account number and that will help our records.

With that, let me turn to the Department of Food and Ag. Is there a representative here. Good morning, it's still morning, welcome.

MR. SHAFFER: Good morning. Yes, it is still morning.

I'm Steve Shaffer with the Department of Food and Agriculture and thank you to the Committee for allowing me this opportunity.

Just a very few brief comments. Food and Ag has been in the loop on this project since its inception and we really appreciate the close coordination between the Commission and the Department. We think the report is an excellent report, and especially given the timeframe that's been involved.

I've listened to the recommendations of many of the stakeholders and we would certainly concur with basically everything that we've heard today in terms of their take on recommendations to the panel and to the Commission.

Just a couple of brief points. The driving force, as far as agriculture is concerned is really the environmental regulations that they see facing them right now and in the future. So timing is very important. Market assurance is

very important. Agriculture will be making significant investments in terms of infrastructure, perhaps in terms of crop shifting.

So it's very important that there is stability in the future concerning biomass energy and biomass ethanol specifically.

Two specific recommendations for the report and then two sort of broader recommendations. One, there were a list of specific potential actions to support E-10, E-22, E-85, what have you. I would add a specific note for oxydiesel to that. Diesel fuel regulations, toxic air contaminant issues, what have you, those will most probably have some significant impacts to agriculture which relies on diesel fuel. So something to support oxydiesel should be considered in the report.

And looking farther into the future, something also that really does emphasize ethanol as a fuel cell feedstock. So I would offer those two specific recommendations. And I know they are addressed in other places in the report.

A couple of fundamental recommendations. I'd like to, and I know time is certainly of a constraint here, but I would like to see the

Energy Commission, with help from the other agencies, take its best shot, add a package, add a suite of recommendations, what it would take to truly get this industry up and operating.

And whether this is in the context of bioethanol and in the context of this report, but in terms of the activities of an interagency task force, it could lay a really solid foundation for those discussions. And, you know, there's an excellent staff here at the Energy Commission and I don't doubt that they could take their best shot at a suite of actions that could be considered as a starting point.

And the second is, I'd hope to see a timeline included in this. You know, with the MTBE phaseout, which is the driving force of this, with other environmental regulations coming down, if all these studies, recommendations, what have you, can become a package that is sent to the Governor's Office by say this time next year, that that would, I think, add some teeth to this and really provide the impetus.

So, those are my comments. Thank you very much.

PRESIDING MEMBER MOORE: Thank you. We

appreciate your provocative suggestions.

With that, I'm going to turn to other open public comment. Are there other individuals who'd like to address us today? One, two, gentlemen. Let me take the first one here. Welcome.

MR. CHILCOTE: Good morning, distinguished ladies and gentlemen. My name is John Chilcote. I spoke at the workshop on several items, and one of the reasons I'm addressing it is I think everything got reversed, the way it came out.

One of those was the fact I was trying to raise the issue that we faced in a bio-center feasibility study in Forest Hill. One of the things that beat us down on it was the cost of getting the product down to a distribution yard and it was labor, labor, labor. Every time somebody has to touch it, it greatly increases the cost of it.

Mechanization is the secret to making it a viable process of getting the feed down to the areas needing it. And the drift of what I had made was not the equipment that chops up the stuff, it's the transportation system is what I

was looking at.

And as I specified then, the State of California, Legislature, in the past years, granted implement of husbandry exemptions to the farmers. Why? So they could quietly transport their product. They could work it without all that extra overhead. And that's what the drift of my comments were, that we need to get an expansion of the implement-of-husbandry laws to apply to the implements of silviculture where you can take the registration off of them, you can change the equipment requirements on them. You can come up with a vehicle that has a footprint light enough to be operated on the forest floors, where they're not allowed. In the forest, I believe it's five PSI is the maximum footprint on the national forest floors.

But there are vehicles that can exert, walk around on those forest floors with that soft a treadle, but they're not allowed on the highway. And the implement of husbandry was to allow limited distancing on public highway network to get it to sort yards or to another processing thing. And if could come up with, first of all the law to that, then we can get the manufacturers

to respond to the need. And I don't know if the old build a better mousetrap thing applies or not, but primarily if there's a need they'll come, they'll respond.

It's just a small item, but it was one of those items that was blocking our ability to get the process to work.

The other item that was not then, and I figured that you said that we were going to get all the resource agencies involved in this, but the one that's missing is Water. Dr. Robin Graham from the Oak Ridge National Laboratory spoke at the Western Biomass Consortium in Rocklin back in August, right near the workshop dates.

The subject she spoke about was a model that she'd worked on and she's a fuel stock specialist. Her model had to do with reduction of overgrown undergrowth or overburdened. And her model showed a ten percent increase in water yield with a reduction of the excess biomass. That's because of the transpiration, the evaporation, that that junk puts into the air. It stays in the ground instead.

In our instances here, in this vast valley, ten percent additional yield would mean a

tremendous amount of additional water to drain out of these mountains and the streams and all, towards the end of the season in August and September, when we're worried about the freshwater flows in the Delta and the God-almighty salmon.

But I think, you know, we're looking at credits and benefits of the biomass system, that's another benefit that really wasn't addressed. And just how much is that worth when water is going to be our short commodity in the future.

Thank you.

PRESIDING MEMBER MOORE: Thank you. That's intriguing and I'm very happy that you came to speak to us.

Sir, welcome and good morning.

MR. PREVOST: Good morning, Commissioners and others. My name is John Prevost. I'm with The Pacific Lumber Company. I'm Director of Environmental Services.

And I'd like to start out by saying that it's encouraging to see Commissioner Moore sitting up there because I know that he's taking time out of his busy schedule to go through some of these plants and try to understand what our problems are first-hand and I --

PRESIDING MEMBER MOORE: Actually I should say for the audience's benefit, one of the most -- one of the best visits I ever had was being in Mr. Prevost's tour and it certainly helped me to understand a lot more about the mechanics of how it works. I thank you publicly. You helped me and my staff very very much.

MR. PREVOST: Well, we appreciate the opportunity. Thank you for coming.

One of the things that was mentioned this morning, we're also a member of the Biomass Alliance. I don't intend to reiterate on any of the issues that have already been put forth. We agree with what's been said.

One of the things that was mentioned this morning that I mentioned at the last hearing that we had, or workshop that we had, was that these plants are all different. And it was mentioned this morning that some of the plants are associated with mills and their costs for fuel are significantly less.

That's the true to a degree. In our particular case, we can burn up to 50 chip trucks a day. That's a lot of fuel, and that's about 1500 tons of fuel. And about ten years ago we

trucked about half our fuel in and conveyed the other half. Right now we're conveying probably 35 percent and trucking the rest, so these costs have gone away, but we still have a lot of costs involved.

And there aren't a lot of power plants associated with the mills, only a handful. I'd say probably less than ten, eight to ten that are associated with mills that have power plants put to them, which allows us to use the true cogeneration, providing the steam and the electricity for the process.

One of the things that we've noticed over time, and I mentioned last time that we had initially looked at some ethanol type projects, and at that time it was -- the fuel that they needed for the ethanol was stuff that had higher value, the paper chips, the fir chips and stuff like that. And it's really encouraging to see that the system has -- the process has evolved to the point where we can start using some of the lower end stuff, the hogfill type materials.

As the forestry rules changed over the last few years, we've noticed, and I'm sure everyone has, that obviously less timber is being

removed from both private and public lands. And with the increased effort on the part of the mills to obtain the most or the maximum benefit out of a tree, the stuff that comes out the back end has decreased significantly, and we're certainly seeing that.

Another factor that, at our company, we're seeing more of is the use of helicopters in logging. With the inability to get in and build logging roads and resistance to that and water quality issues and other things, we're doing a lot more helicopter logging. And when you're doing helicopter logging I really don't see bringing fuel out with helicopters.

And if you don't, obviously, have roads, you're not going to get anything in there at all, as difficult as it is today.

One other thing I'd like to mention. We talked about the ability to use these biomass plants along with an ethanol system. In the mid-eighties when PURPA came in and all these plants got started up, there was a tremendous demand for fuel. And one of the things that did, especially in the valley, up towards Redding and up that way, there was a tremendous effort involved with in-

forest chipping, basically a whole industry was spawned and prices were high, they could get in there and do that.

Well, with the plants that have been idle, the changes in the -- those folks that had the higher dollar contracts, the SO4 contracts with the utilities, as they dropped off the cliff and their income started dropping, that industry has just about gone away. And that is an industry that would be key in this ethanol process, I think, of getting that stuff in from the woods.

So, we're talking an industry that though it's not dead, it's close to it. There's not a lot of effort being done right now in in-forest chipping, I don't think. Now, I could be wrong.

One of the other things that I'll just mention as a side issue, some of the plants that have been idle, I've been hearing some talk about the possibility of folks going in there and dropping gas generators on those sites. Put in a small gas generator, take the woodburner that you had, the boiler, and turn it into a recovery boiler.

So there is a lot of talk going on about

that, especially in the deregulated world that we live in today with electricity, and that is a way to get that cost of electricity down.

So those are some of the things that are going on. I laud the efforts of staff and all you folks in putting these reports together and they've done an excellent job. So, thank you.

PRESIDING MEMBER MOORE: John, can I infer from your remarks that when there was a little bit of criticism about not having the water agency involved in our study before, that maybe we overlooked the Department of Forestry as well? Are you inferring that we ought to have the Forest Practices Act in front of us as well?

MR. PREVOST: It probably wouldn't hurt to have somebody in here. It really wouldn't, to get an input from those folks. I think, like I said, the worst thing as far as logging, there's tremendous changes. I mean we used to have a logging plan that was a half inch thick. We've got logging plans now that are two feet thick. So there's been a tremendous emphasis in changing the way that we do business, we in the timber industry.

PRESIDING MEMBER MOORE: Right, and I'm

very mindful of the remark that was made earlier about the five PSI tires, and as I look out from my house back east and GP is logging a lot of the Mendocino lands with helicopters now, and, frankly, have no intention of moving vehicles in and out.

So we've, in a sense, we've boxed that back door without the roads, so we get a benefit to some of the stream flow and everything else, but we may have locked some of this out. Those are good suggestions and, again, I appreciate your help very much.

MR. PREVOST: Thank you.

PRESIDING MEMBER MOORE: Thank you.

Anyone else in the public who'd like to address us?

All right.

Let me bring this matter back up to the dais then and ask -- I know Commissioner Pernell has got at least one question for someone who spoke.

Commissioner Pernell.

COMMITTEE MEMBER PERNELL: Thank you, Commissioner Moore.

I don't see the representatives from

Nebraska I wanted to ask a couple of questions. Maybe they'll be in a little later. I think that it's certainly healthy to have sister states coming in and talking about these technologies. And one of the questions I would have for them is whether or not there are any new innovative technologies as it relates to biomass to ethanol or even biomass to energy. So if anyone has any information on that, we'd like to hear it.

Well, then the other person I'd like to ask a question is Mr. Reese. Is he still here?

PRESIDING MEMBER MOORE: I don't think Phil is still here.

COMMITTEE MEMBER PERNELL: Phil is outside.

MR. PEREZ: Commissioner Pernell, just to inform you, our representatives from Nebraska and Kansas had to leave to catch their flight, so they will not be returning.

PRESIDING MEMBER MOORE: Phil, could you come up to the podium? Commissioner Pernell has got a question for you.

COMMITTEE MEMBER PERNELL: And just for the record, our representatives from Nebraska, we certainly thank them for coming out to California

and sharing their thoughts with us.

Mr. Reese, a couple of questions, and I thought your presentation was very well received. And you indicated that biomass-to-energy was particularly your field of the association that you represent?

MR. REESE: Completely, that's our only field.

COMMITTEE MEMBER PERNELL: Have you guys given any thought to having a duel use with some of your plants and by that I mean, biomass-to-energy as well as biomass-to-ethanol?

MR. REESE: Well, the short answer is yes, we think that would make very good sense. Your staff refers to that as collocating a plant.

COMMITTEE MEMBER PERNELL: Absolutely.

MR. REESE: I mean, for example, at our plant we have 50, 60 big rigs, trucks, coming in everyday with fuel -- excuse me, feedstock. The siting, the fuel supply infrastructure, the biomass electricity plant, would serve as the place to put the lignin, that is a roughly 25 percent or thereabouts byproduct or leftover from making ethanol out of biomass.

It makes a lot of sense. We have had

preliminary discussions with some entities who would like to collocate an ethanol production plant on our site. But let me bring it back to the same problem I mentioned in my earlier discussion.

We pay for the feedstock a lot. If we pay for it to come through our gate, they're going to have to pay for it. And until the cost of the feedstock is reduced effectively to zero and preferably below zero, we would like to get a tipping fee for taking this waste. As the electricity guys we say if it can arrive at our gate free, we don't necessarily have to be paid to take it, but if this feedstock arrives at our gate free, we can compete.

I don't know if the ethanol people require a tipping fee or they can economically operate with free feedstock, I don't know that. But that has been the stumbling point. As your staff's report says, the cost of the feedstock is the thing, and I absolutely think they've hit the nail right on the head.

COMMITTEE MEMBER PERNELL: And, just a follow-up on your feedstock. Is that forest waste or is that however you --

MR. REESE: May I answer it in sort of a three-part answer?

For the plants in Southern California, and I would say that's Bakersfield, generally, and south, the large part of our fuel is urban waste, that wood waste which would otherwise be disposed of in a landfill.

In general for the plants in the central valleys of California, the feedstocks are primarily agricultural wastes, those which would be burned in the field for disposal, but we go out and we get them and we chip that stuff up.

And the plants in the northern part of the state, it's primarily forest wastes, those wastes that come out of the forest from thinning or leftovers from Army operations and wood wastes that is a useless byproduct of sawmills.

So the forest is generally the northern part, the ag is in the central part and the urban waste in the southern part. But I'm not sure there are more than one or two plants that burn a hundred percent of one of those categories.

For example, in my plant, 85 percent urban waste, 15 percent orchard trimmings.

COMMITTEE MEMBER PERNELL: Okay. One

last question, and that is as it relates to the feedstock.

MR. REESE: Good, we've made some progress here today.

(Laughter.)

COMMITTEE MEMBER PERNELL: I was interested in the -- you talked about the production tax credits on the federal level and we have had some interest in that in the renewable arena, basically with wind power. And my understanding was that that particular tax credit was in a bill and was moving and so I'm hearing you say that it's not and so I just need a clarification on that.

MR. REESE: Oh boy, you're putting me -- can I take about a minute to answer that?

In 1992, two particular tax credits were in place, and I'm only going to talk about two, the Wind Energy Production Tax Credit and the Closed Loop Biomass Production Tax Credit. They were the same amount. It started at 1.5 cents a kilowatt hour. For every kilowatt hour you generated from wind or closed loop biomass you got a 1.5 cent federal tax credit.

The wind people have been using that tax

credit since it was put in place. There is no such thing as closed loop biomass. Just accept that. There has never been that in the past and I don't think there ever will be in the future. I'd like to see it, but I don't think so.

Our industry, our biomass industry, is not closed loop biomass and does not qualify for that existing tax credit.

The wind tax credit expired last June 30th. The wind industry made every effort to get their tax credit, it's in Section 45 of the IRS Tax Code. They wanted it renewed and they got it. We wanted the closed loop biomass tax credit expanded to include our kind, conventional.

You're right, it was in a bill and, as Mr. Carlson said, there were 24 Senators, including Feinstein and Boxer, who were very much behind it, a whole lot of Congressmen. Mr. Archer said no. Mr. Archer is the Chairman of the House Ways and Means Committee, which is the Tax Committee in the House of Representatives. He is particularly responsive to the oil and gas industry and particularly nonsympathetic with renewable energy.

So the wind people got their's renewed.

Senator Roth, who is the Chairman of the Senate Finance Committee, which is the Senate Tax Committee, Senator Roth is from Delaware, he has a particular concern, he says, of the run-off from rain falling on poultry litter, polluting the Chesapeake Bay.

So he wrote in a tax credit equal to the wind tax credit for plants which generate energy from burning poultry litter. There aren't any of those yet, but you know what poultry litter is.

COMMITTEE MEMBER PERNELL: I have an idea, yes.

(Laughter.)

MR. REESE: Well, let me be real clear. I said this at the workshop and I think you all might appreciate this, poultry litter is chicken droppings on wood shavings. And according to the federal definition that would qualify as biomass, not closed loop biomass, of course, but biomass. And we told Senator Roth's office that, as far as we were concerned, poultry litter already qualified if we got a biomass tax credit.

And his reply was, no, I want the bill to say poultry litter as fuel qualifies, so I have already put the chicken out on the top of my

woodpile. And I've got 50,000 tons of poultry litter. That's a busy damn chicken, too.

(Laughter.)

MR. REESE: But, you're right, it was in a bill moving forward, the wind people got their's, the biomass people did not.

COMMITTEE MEMBER PERNELL: Right. And then just one final question on this and this is maybe a yes or no answer. My thought here is that if the State of California moves forward with a program for ethanol biomass, would your organization be going back to seek the tax credit next year and if so would that help your industry here in California if that was successful?

MR. REESE: If it's successful, yes, it might cause the entity to survive. But as to whether or not we're going back next year to seek it, it takes a lot of money to do things like that, and whether or not the defeat this year will so discourage the existing biomass plants that they won't want to fund another year's effort, we don't know the answer to that yet.

COMMITTEE MEMBER PERNELL: Even with your chicken on your --

(Laughter.)

COMMITTEE MEMBER PERNELL: Thank you very much. I appreciate it.

PRESIDING MEMBER MOORE: I'm going to turn to Jim Boyd and ask if he has any questions?

EX OFFICIO MEMBER BOYD: I don't have any questions, Mr. Chairman, but I've got some comments, but I'll wait until you're ready for comments.

PRESIDING MEMBER MOORE: Well, we're ready. We're going to wrap this up and let me start at the far right and ask Mr. Boyd.

EX OFFICIO MEMBER BOYD: Well, as I mentioned in my introductory comments, besides a key interest in the subject of the hearing, MTBE, ethanol, the fate of our reformulated gasoline, I also have a very keen interest in the overall topic of biomass.

And we have a biomass working group that I referenced earlier on. Apparently it's a stealth group because it just struggles for any identity. Even this report doesn't recognize its existence. And I would request that perhaps in your final edition there be some reference to this group and that perhaps it be --

PRESIDING MEMBER MOORE: So noted.

(Laughter.)

EX OFFICIO MEMBER BOYD: -- perhaps it could then be chartered as a task force with a little more impetus. The working group does include the three primary agencies, the Resources Agency, Cal EPA, and Food and Ag and components thereof. The charter members of the group, of course, are the CEC, Department of Forestry and the ARB and it's subsequently been expanded to include the Water Board, the Waste Board and I'm probably leaving folks out.

Dr. Lloyd availed himself of our charter meeting, which I appreciated. Mr. Shaffer has been in meetings and we look forward to addressing the issue, the overall issue. And what I'm encouraged to have heard today from virtually all the witnesses or the majority of witnesses is re-emphasizing the very reason why we formed the group.

While we recognize the big game in town right now is MTBE and MTBE biomass-to-ethanol, concurrent with this, and some witnesses have referenced it, are a host of other issues, problems or what have you that are ripe to be addressed right now.

I have heard reference to forest health, forest fire. I've heard reference to the -- and we have wild land as well as forest fire threats and fuel sources. We have ag waste, as it used to be called. I, too, have chosen to change the reference to a lot of this from a waste to a commodity or product that we don't perhaps utilize.

We have municipal waste to deal with. We have the air quality problems. The environmental issues tend to push and have consistently driven a lot of these issues. We have water and water quality issues. We have transportation issues that I'm glad to see the report refers to and that need to be addressed.

We have the issue of energy security, energy diversity, that has been on the table off and on, multiple times and, as I think I mentioned in the last workshop briefly, in response to, I think one of the gentlemen testified today, in just saying, yes, there is a group concerned about this on a broad basis.

A lot of us have had a lot of experience with individual pieces of this issue. I mean, I see very familiar faces in the audience of folks

that I have worked with in the past, in just trying to address the fate of biomass energy. Or just trying to address the air quality issues of the burning of agricultural commodities, or waste as it used to be called, and never could we resolve those issues, because economically they couldn't stand alone.

So our effort here has been to gather as many of these issues under a single tent and perhaps therefore -- and to reinject the issue that I've heard today that has just not been addressed much in the past, the value of societal good, into the equation and try to get the economics of this overall to sustain solutions to this on maybe a broader systems basis.

So references to the need for a biomass state policy are, frankly, very valid, and while the topic here is to deal with a piece of this, and admittedly, it's one of the lead horses in the group right now that's pulling this issue along, so to speak, it does afford us an opportunity to reinforce the need for addressing the broader issue.

And I hope in this report we can accept the challenge that Mr. Shaffer threw out, although

maybe broaden it a little bit to take a very broad, and maybe even take some risks with regard to referencing the variety of issues that need addressing now, and, if taken in concert with this issue, we are afforded a very good, if not unique opportunity, to perhaps make some real progress.

I hate to call out any particular witness, because they all had some excellent points and I was pleased to see the unanimity of view on so many of these issues. And I just think, with such a large group of us hearing this today, that maybe we take a look at that.

I came to the meeting prepared only to say something about one of the policy recommendations and that is the one that talks about a biomass transportation fuels energy policy, recognizing again that's the issue before us today. But, as I've said and others have said, maybe we need a broader look at it.

But also it talks about -- the staff's recommendations talks about, as I totally can understand support, which is consistent with the Energy Commission goals for the transportation sector, and that's because that's within the parameters of your charter.

I really came here to recommend that we say something rather, you know, about consistent with the state's energy, environmental, agricultural and transportation program needs or policies or what have you. And perhaps hearing so many comments from the audience would facilitate even a broader recognition of that. So that when this moves forward into the administrative and political arena there's a recognition of the interfaith between all these program needs and policies, and that even though we're pursuing just one narrow piece of it they're all hooked together in a very large system that we can address.

So, I'm encouraged by what I hear today. I think, once again, we have an opportunity to wedge this door open and solve multiple problems.

Thank you.

PRESIDING MEMBER MOORE: Thank you, Mr. Boyd.

Dr. Lloyd.

DR. LLOYD: Thank you, Commissioner Moore.

I'd just like to make a few points. Again, I'd like to congratulate staff for their excellent work on this program. But also for

highlighting, I think, the need to look at the whole range of transportation fuels.

I'm really very much looking forward to working with you from the ARB, there, to craft the opportunities for these fuels. With the technology that's out there I think this is very very important. I think it's something the state has been lacking and I was delighted to hear Neil Koehler from Parallel Products talk about the opportunities he sees for the ethanol industry playing both in conventional IC engines, but also in the more advanced technology of fuel cells.

So I think I was very very heartened and I say this is something badly needed. So as we see clearly the gasoline industry and the diesel industry, the major players, who also need to look at diversification, in the years ahead, that's going to be a critical component. And maybe out of the lessens and basically the world problem posed by MTBE phase-out, we can create, actually, victory, in fact, out of defeat. So, I'm looking forward to that very much.

On the other hand, I would also, very much, endorse one of the earlier comments that we're not going to end up with paper here. This

is an opportunity and I think we have to take it early here. We want to see plants built, plants retained, with the opportunities here, policies formulated and actions followed.

Because if, what we do is, in fact, put all this paper here and nothing happens, we're going to lose enormous opportunities. And I want to see that the ARB will play a key role. I, along with the other entities within the administration, look forward very much to participating, from this side, together with the private sector.

Thank you.

PRESIDING MEMBER MOORE: Thank you, Dr. Lloyd.

Commissioner Pernell:

COMMITTEE MEMBER PERNELL: Thank you, Commissioner Moore.

First, what I'd like to do is thank my esteemed colleague, Commissioner Moore, and recognize the dais, and thank Mr. Perez and his very professional team for putting the report together. It is a very comprehensive report, informative, very well detailed, and I think that the comments that we've heard about the report

reflects that opinion.

We also appreciate the efforts of all of our speakers in sharing your views with us. I do believe we're on the right track. The efforts that we're doing here today, and I agree with Dr. Lloyd that it will not go in somebody's waste bin, that we're going to follow this through and we should follow it through as policy leaders.

Also, as the report brought out, that there are many benefits, environmental benefits. We talk about diversity of fuel. So there's a lot of interest and a lot of benefits to the report and we should pursue it.

We know that there's going to be some challenges and we need to start looking at how we can develop a viable industry with biomass-to-ethanol, biomass-to-energy and look for ways in which we can help the industry grow.

And finally, what I want to do, what I'd like to do, is talk about something that was mentioned by one of the speakers, and that is the efforts of interagency cooperation. The CEC, the ARB, the EPA agencies, and then there were some others mentioned, the forest industry, all of those are agencies in which collaboratively we can

work together to actually make something happen for the State of California, and I think that's why we are all here.

In terms of where we go from here, I would just -- one of the areas that I worked on in my past life, before I got here, was the infrastructure bank. And if we can just look at that as a way to maybe fund some of these programs with infrastructure and do a dual use with some of the plants that we already have, I think that helps us a lot.

Again, I want to thank Dr. Lloyd and Jim Boyd, who is representing the Resource Agency, for sitting at the dais with us and discussing this matter. And I can tell you that as the presiding member of the Intergovernmental Committee we will work with all agencies across all sectors so that we can collectively do something positive for this state. And so I thank you all again.

PRESIDING MEMBER MOORE: Thank you, Commissioner Pernell.

We're going to close this up now. Just a couple of wrap up comments.

First, on a philosophical note, I am mindful of everything we've heard and the fact

that part of our charge was to identify opportunities that can exist or can be expanded within the state to create a viable industry. Nothing in that implies a guarantee.

And for those of you who sat through those long, long hearings in the Renewable Committee, I'll remind you that we are in a market-driven period. I doubt that you're going to see a set of recommendations that are implemented or implementable which take us back to the dark days of total subsidy.

So if there's an inkling that we might get back there because that's what's right and that's what's good, I doubt that that's what's going to happen. At least it's probably not going to flow from my pen.

On the other hand, looking at structures that enhance markets, that create opportunities and, in fact, more than anything else eliminate obstacles. I think Mr. Reese's point about tipping fees is particularly germane.

We have ignored local government in this and some of the responsibilities that they bear in terms of supporting the market long term, making fuel cycle costs apparent to the consumer and

really bringing the consumer in to pay a fair share of what is a long-term goal of California policymakers and that is better environmental quality.

So part of our responsibility is not just to crank up a till, if you will, and start passing out subsidies, it's to make sure that these industries can compete honestly and fairly and get a fair share of what they deserve.

Frankly, one of our final thoughts going out of the renewables hearings was that we were going to have to reconvene at some point, and it seems to me it's here, to examine the biomass industry and find a way to raise the profile of that in the minds of other policymakers, because clearly they are undervalued in the broad scheme of things.

And that brings up the question of complexity, at least among regulatory agencies, and I'm glad that we were hearing testimony about the need to bring other agencies in as well. Certainly, the ability to blend forest practices rules as well as some of the water concerns are paramount to our issues and paramount to our success ultimately in establishing this.

So, with that said, you realize the complexity of what we're working with, and that makes the implementation of this, not impossible, but certainly difficult, and a challenge that we're all going to have to shoulder together.

We're committed to that. I know Dr. Lloyd and certainly the Resources Agency are committed to that as well. So, this is going to be a dynamic and I think very very fruitful process.

So, where do we go from here? We are going to take the remarks that we've heard today, incorporate them in our report, they'll be back out to all colleagues very shortly, early in December, with an objective of approving a final report by December 15. Mr. Perez has apparently gotten an invitation to the Governor's New Year's party, which I didn't get --

(Laughter.)

PRESIDING MEMBER MOORE: -- and so it could be my party registration, but I hope not. Anyway, since he's in the right party we'll arm him with the final copies and let him delivery them. We're firm on the delivery date, December 31st. We will make our target and I assure you we

will work with you very closely, very cooperatively to develop a product that works, when we go to implement this.

Thank you all. We're adjourned.

(Thereupon the Biomass-to-Ethanol Public Hearing was adjourned at 12:20 P.M.)

CERTIFICATE OF REPORTER

I, DEBI BAKER, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Public Hearing; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said Public Hearing, nor in any way interested in the outcome of said Hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 6th day of December, 1999.

DEBI BAKER